FREDONIA
STATE UNIVERSITY OF NEW YORK

International Business Analytics Conference for Academic and Industry Professionals 2026

Fredonia, New York

Thursday – Friday, May 7 - 8

Conference Website: www.fredonia.edu/ibac
Conference Email: ibac@fredonia.edu

INTERNATIONAL BUSINESS ANALYTICS CONFERENCE FREDONIA
IBAC

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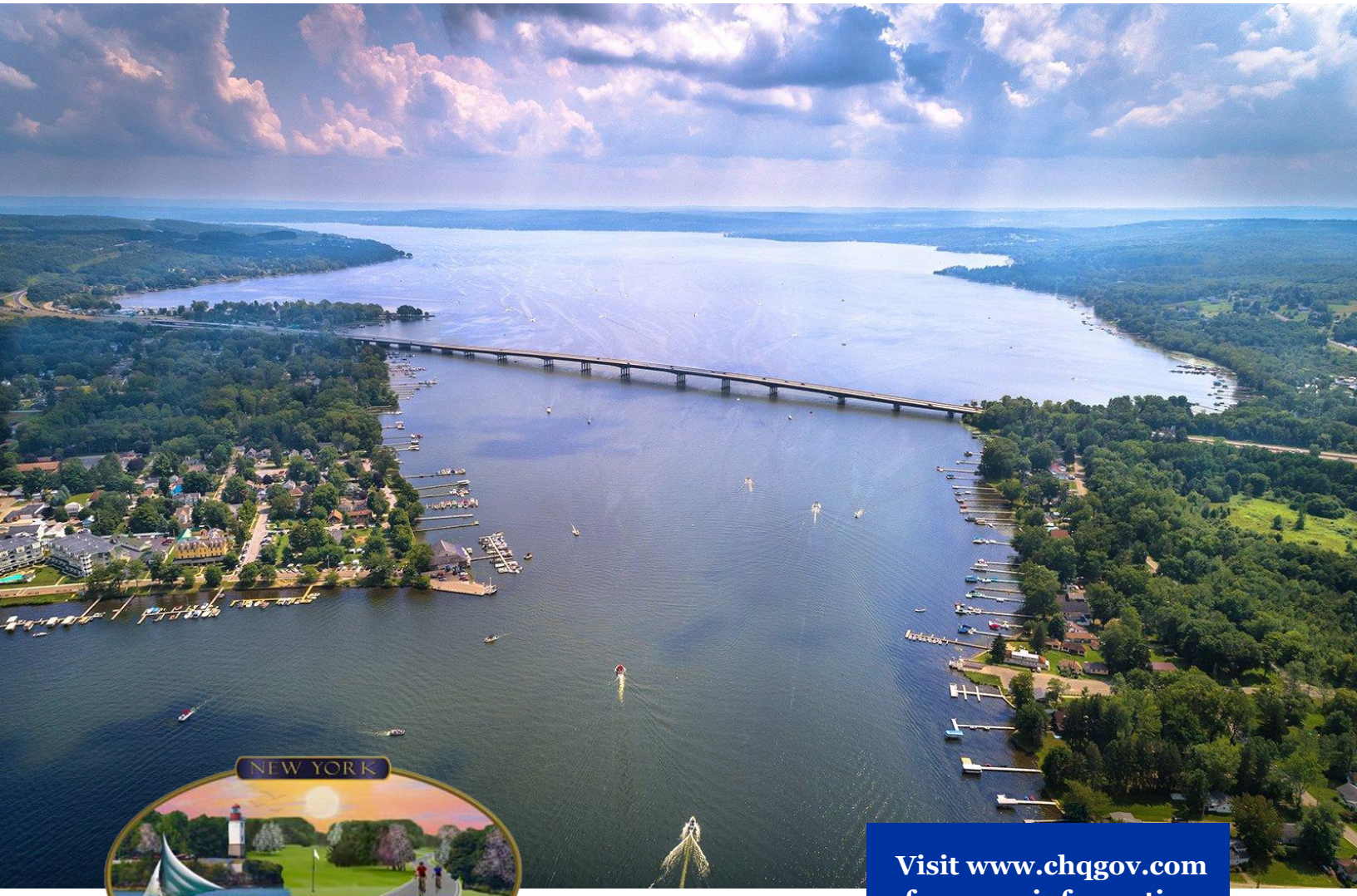
Chautauqua County is supporting the International Business Analytics Conference through a tourism grant designed to “increase tourism, conventions, trade shows, special events, and other directly related or supporting activities.”

The County supports the "development of distinct themes or significant events and attractions that enhance the level of visitor experience," and ultimately the number of visitors to the County.

We thank Chautauqua County leaders for supporting this inaugural event.



Visit www.chqgov.com for more information on local attractions!

State University of New York at Fredonia

Founded in 1826, The State University of New York at Fredonia is one of the jewels of the SUNY system, known for its welcoming atmosphere, distinguished faculty, and beautiful campus. With affordable tuition and housing in a classic "college town," the State University of New York at Fredonia gives students the academic challenges of a selective university committed to developing their character and preparing them for a rewarding career.

Fredonia offers a complete college experience -- a "destination university" in a creative environment that is diverse, welcoming, and safe. It helps students become uniquely connected to classmates, professors, and the community. The vibrant campus features comfortable residence halls, delicious dining options, and an abundance of extracurricular options to keep your evenings and weekends as stimulating as your daily studies.

Fredonia has over 80 undergraduate and graduate programs, along with 50+ minors and 13 cooperative programs, designed to help students reach their full potential**.** Fredonia's 14:1 student faculty ratio provides the personal attention students expect in a small private school, delivered at a public college ranked by national publications like Money magazine, Princeton Review, Kiplinger's, and U.S. News & World Reporter for quality and affordability.

Visit www.fredonia.edu for more information!

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Welcome Letter from President Kolison

Welcome to the second year of the International Business Analytics Conference! I am thrilled that you have joined us for this timely and very important event, where scholars and business professionals come together to explore and bridge the gap between industry expertise and academic research in business analytics.

On behalf of the faculty, staff, and students at State University of New York at Fredonia, I extend my warmest welcome to all attendees, including students, scholars, academics, and industry experts. Through this platform, we aim to foster connections among local, regional, and international communities. By cultivating a vibrant global analytics community, the conference promotes collaboration and knowledge exchange, while providing meaningful opportunities for students to deepen their understanding and activities with real-world implications. We hope that you will carry this knowledge and experience back to your respective institutions and workplaces, aiding our collective endeavor towards the advancement of the analytics field.

A special thank you to our sponsors, whose generous support has made this conference possible. Thank you all for joining us here at the State University of New York at Fredonia. Working together, we will make the International Business Analytics Conference an annual event, and it is our intention to be its proud home.

Very truly yours,

Stephen H. Kolison Jr. Ph.D.
President of SUNY Fredonia
Professor of Economics
State University of New York Fredonia

Welcome Letter from Dean Misra

As the Founder of IBAC, it is my great pleasure to welcome you as we celebrate our **third year**, growing stronger, more impactful, and more connected with each passing year.

On behalf of the organizing committee and the Fredonia School of Business, I am delighted to bring together a diverse community of scholars, practitioners, and students from around the world. IBAC continues to serve as a vibrant platform to share ideas, showcase research, and explore innovations in analytics, while actively engaging both undergraduate and graduate students and fostering the next generation of thinkers and leaders.

As we mark this milestone, I am excited to share that IBAC is expanding globally, with a new leg planned in **Manila, Philippines, in November 2026**. We are currently finalizing the details and look forward to sharing more soon as we continue to broaden our international reach.

This year's program features cutting-edge research presentations, engaging industry panels, student-focused sessions, and valuable networking opportunities, including strong participation from employers seeking analytics talent.

Finally, my sincere thanks to our **committee members**, their dedication, teamwork, and tireless efforts behind the scenes are the true driving force behind IBAC's continued success.

Thank you for being part of IBAC. We look forward to learning with you and shaping the future of analytics together.

Best,

Kaustav Misra, Ph.D.
Dean, School of Business
Professor for Economics
State University of New York Fredonia
misra@fredonia.edu

Conference at a Glance

The International Business Analytics Conference (IBAC) successfully hosted its inaugural event at SUNY Fredonia on May 3-4, 2024. This landmark conference established a unique platform designed to bridge the gap between academic scholarship and industry practice in the field of business and data analytics through meaningful Academia-Industry partnerships. By convening industry professionals and academic experts, IBAC fostered valuable dialogue and collaboration within the dynamic and rapidly evolving discipline of business analytics.

The conference welcomed submissions across a broad spectrum of topics related to both research and industry applications in business and data analytics. Areas of focus included, but were not limited to, Accounting, Business and Management, Computer Science/Management Information Systems, Economics, Finance and Insurance, Education, Healthcare, Marketing, Music and Entertainment, and Sport Management. In its first year, IBAC attracted 189 participants in 2024 and 219 participants in 2025, demonstrating strong interest and confirming the demand for a forum of this kind. Encouraged by this positive response, the conference is set to become an annual event.

The 2026 IBAC conference is scheduled for May 7-8, with plans to further expand participation and engagement. We are pleased to witness growing support from local and regional businesses, whose involvement continues to strengthen the conference's impact and reach. Additionally, IBAC 2026 will introduce two new and highly anticipated components: Undergraduate Poster Sessions and an Analytics Career Fair, both of which have generated considerable enthusiasm from students and industry partners alike.

For example, submission specifically addressed research or current business practices in:

- Data-driven decision-making
- Predictive and prescriptive analytics
- Artificial Intelligence and Machine Learning in business
- Big data analytics and its applications
- Business Intelligence and data visualization
- Data mining and pattern recognition
- Text and sentiment analysis in business
- Supply chain analytics and logistics optimization
- Marketing and customer analytics
- Risk management and fraud detection
- Ethics and privacy in business analysis

Proceedings and Publication Opportunity: We are pleased to announce that this year, IBAC is collaborating with *Empirical Economics Letters* (indexed by the Australian Business Deans Council, Rating: C, http://www.eel.my100megs.com/) to publish all conference proceedings. In addition, authors will have the opportunity to submit their articles for publication in this journal under a special issue edited by Drs. Kaustav Misra and Justin Mindzek.

Conference Executive Committee

Organizing Committee

Conference Chair:
Kaustav Misra (Dean, School of Business)

Conference Vice Chair:
Justin Mindzak (School of Business - Accounting)

Program Chairs:
Syed Haider (Computer and Information Sciences)
Adam Cook (School of Business - Economics)

Undergraduate Program Chairs:
Lisa Walters (School of Business - Management)

Analytic Career Fair Chair:
Christopher LaGrow (Career Development)

Administrative Support:
Mindy Ostrander and Kristie Bobik
(School of Business)

Program Committee

Publicity:
School of Business Marketing Team
Fredonia Marketing and Communication Team

Finance Chair:
Neepa Gaekwad Babulal (School of Business - Economics)

Event Management:
Mark Delcamp (Facilities Services), Jeff Walter and Katie Thies (FSA), Mark Suida (Campus Life), John McCune (Information Technology), Kathy Forster (Residence Life), Mark Mackey (ITS),

Media Coverage:
Kerry Fischer (School of Business)

Advisory Member:
Mohammad Nasim

Conference Venue

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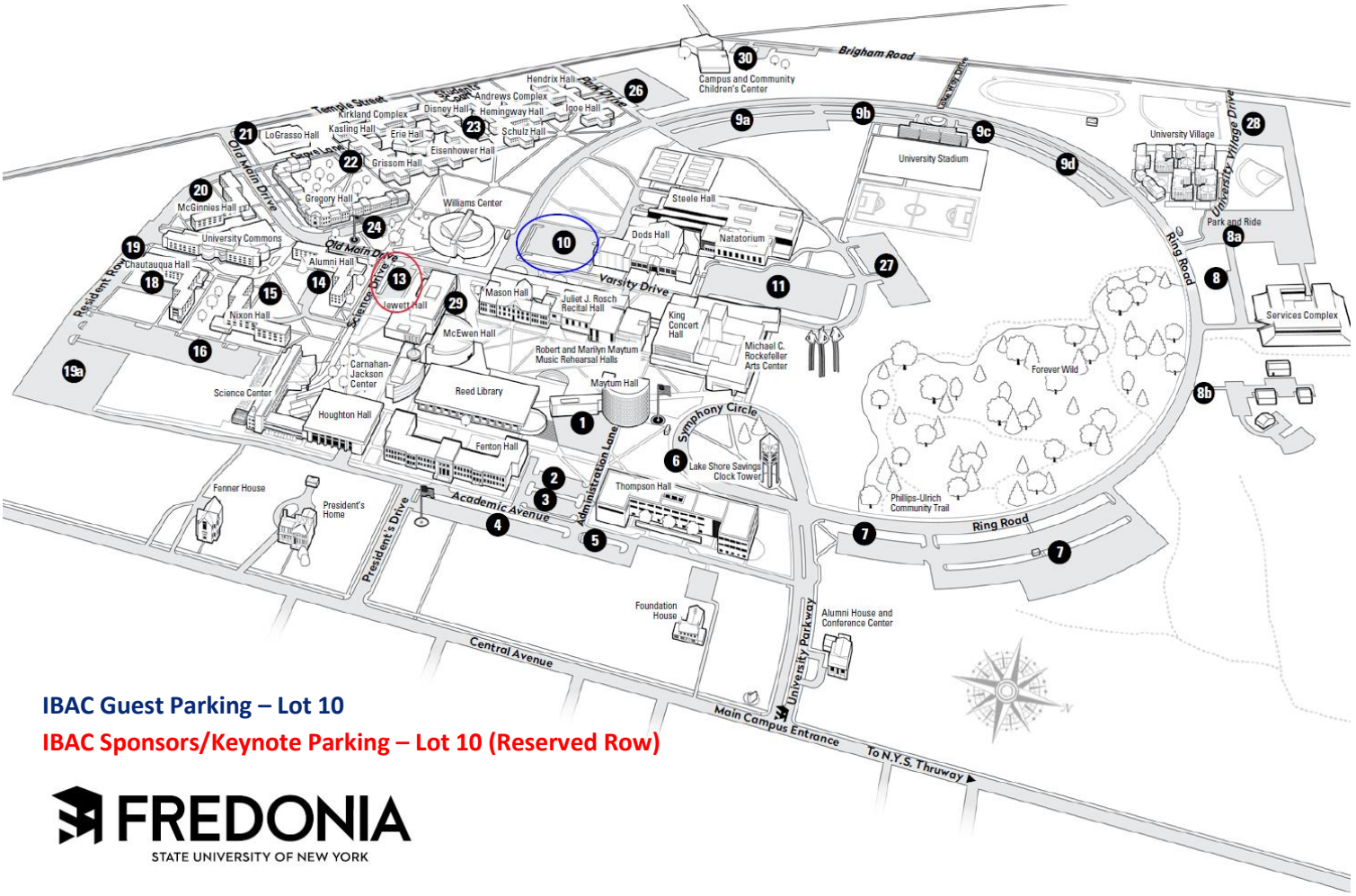

IBAC Guest Parking – Lot 10

IBAC Sponsors/Keynote Parking – Lot 10 (Reserved Row)

FREDONIA
STATE UNIVERSITY OF NEW YORK

Campus Map

ACADEMIC AND ADMINISTRATIVE

2 Lanford House

3 Foundation House
Fredonia College Foundation

4 Alumni House and Conference Center

5 Thompson Hall
College of Education, Health Sciences, and Human Services
Communication Disorders and Sciences
History
Information Technology Services and Service Center
International Education
ResNet
School of Business
Social Sciences

6 Fenton Hall
English
Extended Learning
World Languages and Cultures
Philosophy
President's Office

7 Houghton Hall
Computer and Information Sciences
Geosciences
Mathematical Sciences
Physics

8 Science Center
Biology
Biochemistry and Chemistry

9 Carnahan-Jackson Center
Learning Center

10 Reed Library
Academic Advising
Registrar's Office

11 Maytum Hall
Academic Affairs
Accounting/Accounts Payable
Admissions Office
Budget
Computing Center
Finance and Administration
Financial Aid
Human Resources
Internal Control
Mail Services
New Student & Transitions Office
Payroll
Property Control
Purchasing
Student Affairs
University Services

12 McEwen Hall
Communication
Fredonia Radio Systems

13 Jewett Hall

14 Mason Hall
School of Music

15 Juliet J. Rosch Recital Hall

16 Robert and Marilyn Maytum Music Rehearsal Halls

17 King Concert Hall

18 Michael C. Rockefeller Arts Center
Theatre and Dance
Visual Arts and New Media

19 Dods Hall
Athletics and Recreation

20 Steele Hall

21 Natatorium

22 Williams Center
Blue Devil Den
Blue Lounge
Campus Life Office
Credit Union
Horizon Room
Intercultural Center
Ticket Office
Welcome Center and Campus Tours
Willy C's Dining

23 University Commons
Bookstore
Convenience Store
Cranston Marché
Starbucks Coffee

24 LoGrasso Hall
Counseling Center
Health Center

26 Campus and Community Children's Center

27 University Stadium

28 Park and Ride

30 Services Complex
Central Receiving
Facilities Services
FSA Commissary
Garage
Grounds
Maintenance Vehicles

31 Lake Shore Savings Clock Tower and Carillon

RESIDENTIAL

25 Erie Hall

32 Nixon Hall Residence

33 Chautauqua Hall Residence

34 McGinnies Hall Residence

35 University Commons Residence

36 Alumni Hall Residence

37 Gregory Hall Residence
Career Development
Faculty Student Association
Marketing and Communications
Residence Life
University Police

38 Kasling Hall Residence

39 Grissom Hall Residence

40 Kirkland Complex Residence

41 Disney Hall Residence

42 Eisenhower Hall Residence

43 Schulz Hall Residence

44 Hemingway Hall Residence

45 Andrews Complex Residence

46 Hendrix Hall Residence
WNYF-TV
Environmental Health and Safety and Sustainability
Facilities Planning

47 Igoe Hall Residence
Photography Lab

48 Village Center

49 Pioneer Residence

50 Zoar Residence

51 Barcelona Residence

52 Holland Residence

53 Niagara Residence

54 Letchworth Residence

55 University Village Residence

Williams Center

IBAC Wifi login credentials:

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Password: fredflowers

Please note you will be connected to eduroam seamlessly if you are from an eduroam-enabled campus.

Around the Area:

Hotel and Transportation Information

Clarion Hotel Conference Center on Lake Erie:

Address: 30 Lake Shore Drive East, Dunkirk, NY, 14048, US
Phone: 716-366-8350 or 1-800-525-8350

Clarion Hotel & Conference Center in Dunkirk offers wonderful views overlooking Lake Erie. Located approximately 24 miles from the Jamestown airport, and 45 miles from the Buffalo airport, the hotel & conference center is conveniently located for your getaway, special event or business meeting. The harbor-front boardwalk and the center of Dunkirk are a short walk away and offer dining, recreation and entertainment year-round. On-site, the hotel features a choice of lakeview rooms, city-side rooms, or suites with a whirlpool. To suit our guests' varied needs, this hotel offers room service, a guest laundry area, free newspapers, a 24-hour front desk, complimentary parking and in-room safes. Hotel guests are afforded an abundance of amenities, like free hot breakfast bar, free high-speed Internet access, free local calls and free coffee. We have a seasonal heated outdoor pool and exercise room with cardio equipment and universal weight machine. Traveling through Buffalo? Visit our sister hotel, the Quality Inn - Buffalo Airport, featuring 107 guest rooms, WI-FI internet, fitness room and special Park & Fly Rates!

Steelbound Brewery & Distillery:

Address: 30 Lake Shore Drive East, Dunkirk, NY, 14048, US
Phone: 716-366-7701

The White Inn:

Address: 52 East Main Street, Fredonia, NY 14063
Phone: 716-672-2103

A Historic Landmark Since 1868. The White Inn stands as a testament to timeless elegance and hospitality. Recently restored to its former glory, our inn seamlessly blends Victorian-era charm with contemporary amenities.
Located in the charming village of Fredonia, we offer 25 uniquely appointed guest rooms, an upscale restaurant, and elegant event spaces perfect for weddings, corporate gatherings, and special occasions.

Shuttle Services:

A shuttle service will be available between the Clarion Hotel, The White Inn, and the Fredonia campus.

Day	Date	From Hotel(s) to Campus	From Campus to Hotel(s)
Thursday	May 7th, 2026	7:45 A.M., 8:15 A.M., 12:00 P.M.12:30 P.M.	7:00 P.M.
Friday	May 8th, 2026	7:45 A.M., 8:15 A.M.	12:30 P.M.

Please check with the front desk at the Clarion Hotel or The White Inn for shuttle schedules and additional information.

Phone a friend for help during your stay: Kaustav Misra (662-312-0005 or misra@fredonia.edu) or Justin Mindzak (justin.mindzak@fredonia.edu)

Conference Itinerary

Thursday, May 7th		
8:00 a.m. - 12:00 p.m.	Registration & Information	MPR, Williams Center (WC)
8:00 a.m. - 9:00 a.m.	Breakfast Welcome Remarks: Justin Mindzak	MPR, WC
8:20 a.m. - 8:30 a.m.	Conference Inauguration Ceremony: President Stephen Kolison	MPR, WC
8:30 a.m. - 8:40 a.m.	Plenary Greetings: Dean Kaustav Misra	MPR, WC
8:40 a.m. - 9:20 a.m.	Plenary Session: AI in the Business Classroom: Practical Ways to Build Student Resilience	MPR, WC
9:30 a.m. - 10:50 a.m.	**Concurrent Sessions-I**	Williams Center
	Track 1: Financial Insights I	WC S204A
	Track 2: Analytics in Business Education I	WC S204B
	Track 3: Sports Analytics	WC S204D
	Track 4: Emerging Scholars I	WC G103B
10:50 a.m. - 11:00 a.m.	Coffee Break	MPR, WC
11:00 a.m. - 12:20 p.m.	**Concurrent Sessions-II**	Williams Center
	Track 5: Healthcare Analytics	WC S204A
	Track 6: Business Analytics in Organizations	WC S204B
	Track 7: Financial Insights II	WC S204D
	Track 8: Emerging Scholars II	WC G103B
11:00 a.m. - 12:20 p.m.	Undergraduate Posters: Judging time	MPR Ring, WC
12:20 p.m. - 1:45 p.m.	Lunch	MPR, WC
1:00 p.m. - 1:45 p.m.	**Keynote Speaker 1: TBD**	MPR, WC
1:00 p.m. - 3:00 p.m.	Career Fair	WC G103B
2:00 p.m. - 3:20 p.m.	**Concurrent Sessions-III**	Williams Center
	Track 9: Analytics in Business Education II	WC S204A
	Track 10: Applied Economics	WC S204B
	Track 11: Artificial Intelligence and Machine Learning	WC S204D
	Track 12: Emerging Scholars III	WC G103B
3:20 p.m. - 3:30 p.m.	Coffee Break	MPR, WC
3:20 p.m.- 4:15 p.m.	Workshop By Cengage	MPR, WC
4:15 p.m. - 5:00 p.m.	**Reception and Networking with Smooth Jazz by Music Industry Band**	
5:00 p.m. - 7:00 p.m.	Gala Dinner	MPR, WC
5:45 p.m. - 7:00 p.m.	**Keynote Speaker 2: Pravenna Desu**	MPR, WC
Friday, May 8th		
8:00 a.m. - 9:30 a.m.	Registration & Breakfast	MPR, WC
8:15 a.m. - 9:00 a.m.	**Keynote Speaker 3: TBD**	
9:00 a.m. - 9:50 a.m.	Panel Discussion: The Data Driven Future: Emerging Trends in Analytics	MPR, WC
9:50 a.m. - 11:10 a.m.	**Concurrent Sessions-IV**	Williams Center
	Track 13: Artificial Intelligence in Business	WC S204A
	Track 14: Financial Insights III	WC S204B
	Track 15: Operations and Supply Chain	WC S204C

	Track 16: Business Analytics and Decision-Making	WC G103B
	Track 17: Emerging Scholars IV	WC G103C
11:15 a.m. - 12:00 p.m.	Lunch	MPR, WC
12:00 p.m. - 12:30 p.m.	Award Distributions and Concluding Remarks by Kaustav Misra	MPR, WC
12:30 p.m.	**Depart from Campus!**	

***** MPR - Multipurpose Room, WC - Williams Center *****

General Information

Conference Registration:

Registration will be held in the Multipurpose Room (MPR) of the Williams Center, starting each day at 8:00am.

Badges:

All conference registrants will receive a personalized badge when they check in at the registration desk. Please wear your badge at all times since they will be checked at all sessions, meal functions and events. If you misplace your badge, please come to the registration desk for a replacement.

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Special Assistance:

Accessible Entrances Map

SUNY Fredonia is committed to making its entire campus accessible to all individuals, including those with disabilities. For further information regarding special needs, or if you have previously requested assistance for this conference, please visit the registration desk.

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Featured Speakers

Thursday, May 7, 2026: Lunch Keynote Speaker – How to do more with less: Future-Proofing in the Age of AI by Sharon Gai, CEO, Culture Fluid Former executive at Alibaba, China's largest ecommerce company

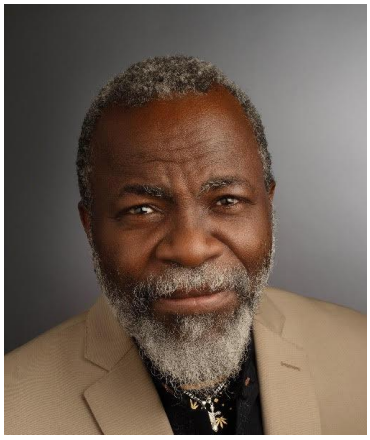
Sharon Gai is an expert in AI and innovation. She helps organizations do more with less using AI. In her tenure at Alibaba, she advised brands in crafting their digital strategy with programmatic marketing and AI. She has worked with TEDx, Singularity University, UBS, Deloitte, Walmart, LVMH, Nestle, Coca Cola, Lenovo, and many others. She is in the AAE list of Top Keynote Speakers in 2023. She is a Top AI Voice 2026, RETHINK Retail's Top Retail Expert and a LinkedIn Community Top Voice in 2024. She has appeared on CNN, NBC, Bloomberg, Reuters, ABC, CBC, CCTV, TechCrunch, and The Next Web. She is the author of the book, *Ecommerce Reimagined* and *How To Do More with Less Using AI*. Sharon has an Honors Bachelor's degree in International Development from McGill and a Masters in Knowledge Management from Columbia University. When she is not speaking, she is creating new music genres with AI, writing jokes for her stand up comedy set or sharing tips on how to maximize productivity at sharongai.com

Thursday May 8, 2025: Dinner Keynote Speaker – Preveena Desu, Head of Americas for Google Workspace Technical Solutions Engineering at Google.

Praveena Desu is a seasoned leader at Google with over 22 years of experience in the IT industry. As Head of Americas for Google Workspace Technical Solutions Engineering, she leads Enterprise Support Engineering, driving customer success and operational excellence across the region. She brings deep expertise in organizational change management and is known for building high-performing teams by fostering a culture of innovation, psychological safety, and resilience. Her leadership approach emphasizes empathy and accountability, enabling teams to deliver consistent, metrics-driven results even during periods of significant transformation. Currently, Praveena is leading several AI-driven initiatives within Google Cloud Support, leveraging her customer-centric perspective to enhance efficiency and business outcomes. A graduate of the Stanford LEAD program and recipient of the Intellectual Contribution Award, she is also a dedicated mentor committed to developing the next generation of leaders.

Friday, May 9, 2025: Luncheon Keynote Speaker - Ernest Fokoue, PhD

Professor, School of Math and Stat, Founder and Director of Data Science Research Group, RIT



Ernest Fokoue has an innate passion for mathematical sciences but also treasures philosophy and greatly enjoys. Exploring ideas that reconcile hard and soft sciences. He earned his doctoral degree from the university of Glasgow in Scotland (United Kingdom), and is currently a professor in the school of mathematics and statistics at Rochester Institute of Technology where His specializes is Statistical Machine Learning and Statistical Learning Theory. He is the proud and grateful father of his 20 year old daughter Ellie (University of Notre Dame) and author of the springer textbook "Principles and Theory for Data Mining and Machine Learning.

Thursday, May 7, 2026: Workshop Facilitator - Megan A. Anderson, Cengage

Megan Anderson is a Cengage Sales Partner, partnering with 2- and 4-year institutions in NY, NH, and NJ. In my role, I focus on the overall health and growth of your program—helping drive current and future initiatives, supporting strategic expansion, and advocating for faculty needs every step of the way. I'm here to ensure you have the resources, insights, and collaboration needed to help your learners succeed and your program thrive.

Plenary Sessions: Panel Discussions, Fireside Chat and Roundtable

Industry Panel Discussion - I

Thursday, May 7th, 2026 from 8:40 a.m. to 9:20 a.m.
Title: AI in the Business Classroom: Practical Ways to Build Student Resilience (Without Lowering Standards)
Student Moderator: Matthew Brown
Panelists: *Lisa M. Walters, PhD., Associate Professor, School of Business, State University of NY-Fredonia,*
Thanh (Hans) Nguyen, Ph.D., Assistant Professor of Marketing, School of Business, Quinnipiac University
Saad Mahmood, ALM, Academic Partnerships, Edvisor.ai
Rameez Mahmood, MBA, Co-Founder, Edvisor.ai

Panel Brief:
This session explores how business faculty can redesign assignments and learning experiences, so students use AI thoughtfully rather than as a shortcut. We begin by framing the core challenge of building *AI resilience*—students who engage with AI critically, ethically, and in ways that deepen learning. Two faculty stories from MBA and Marketing/Sales courses illustrate concrete assignment redesigns, shifts in student behavior, and direct student feedback on how structured AI use improved preparation and understanding. We then zoom out to a broader perspective on the pedagogical anxieties instructors face and how reframing the conversation around course design, feedback, and skill-building can move us beyond bans and detection. The session concludes with an open Q&A to help faculty focus on practical next steps for strengthening assignments in the AI era.

Workshop

Thursday, May 7th, 2026 from 3:20 p.m. to 4:15 p.m.
Title: Career-Ready by Design: AI Fluency in Business Analytics and Decision Sciences
Facilitator: Megan A. Anderson, Cengage
AI is no longer a future capability in business analytics—it is a baseline expectation. Yet many organizations and academic programs still struggle to translate AI tools and methods into career-ready skills that drive real decision impact. This session is designed for conference attendees who want to close that gap—intentionally and at scale.

In Career-Ready by Design, you'll learn how AI fluency can be purposefully embedded into business analytics and decision sciences curricula—without overwhelming learners.

You'll leave with:

- A practical framework for defining and assessing AI fluency
- Concrete examples of how AI can enhance—not replace—current curricula materials

- Guidance on preparing students and professionals to communicate insights, challenge models, and make better decisions in AI-augmented environments

Whether you are an educator, researcher, industry leader, or curriculum designer, this session offers actionable insights to help you build analytics talent that is adaptable, ethical, and genuinely career-ready. Join us to rethink how we prepare the next generation of decision-makers—by design, not by accident.

Industry Panel Discussion - II

Friday, May 8th, 2026 from 9:00 a.m. to 9:50 a.m.
Title: The Data Driven Future: Emerging Trends in Analytics
Student Moderator: Gabrielle Sordetto
Panelists: ***Dr. Alfred L. Guiffrida (M)-*** *Kent State University*, ***Dr. Seungbak Lee-*** *State University of New York at Fredonia*, ***Dr. Lisa M Walters -*** *State University of New York at Fredonia*

Panel Brief:
In today's data-rich and digitally connected environment, analytics has evolved beyond reporting toward engineering real-time decision systems across business functions. Such analytics also concerns the ever-expanding role of AI. This panel explores the expanding role of descriptive, predictive, and prescriptive analytics in supply chain management, quality management, and AI-driven social media content analytics.

Panelists will examine how organizations are leveraging advanced forecasting models, statistical process control, optimization techniques, and AI-enabled decision systems to reduce uncertainty, improve resilience, and enhance operational performance. Particular emphasis will be placed on the transition from dashboard-driven insight to predictive monitoring and prescriptive, constraint-based decision-making. Examples will be provided to facilitate discussion.

Each panelist will highlight analytics applications within their area of expertise, followed by an interactive discussion focused on implementation challenges and future directions. The session will provide academics and practitioners with insight into how analytics is reshaping organizational decision architectures across industries

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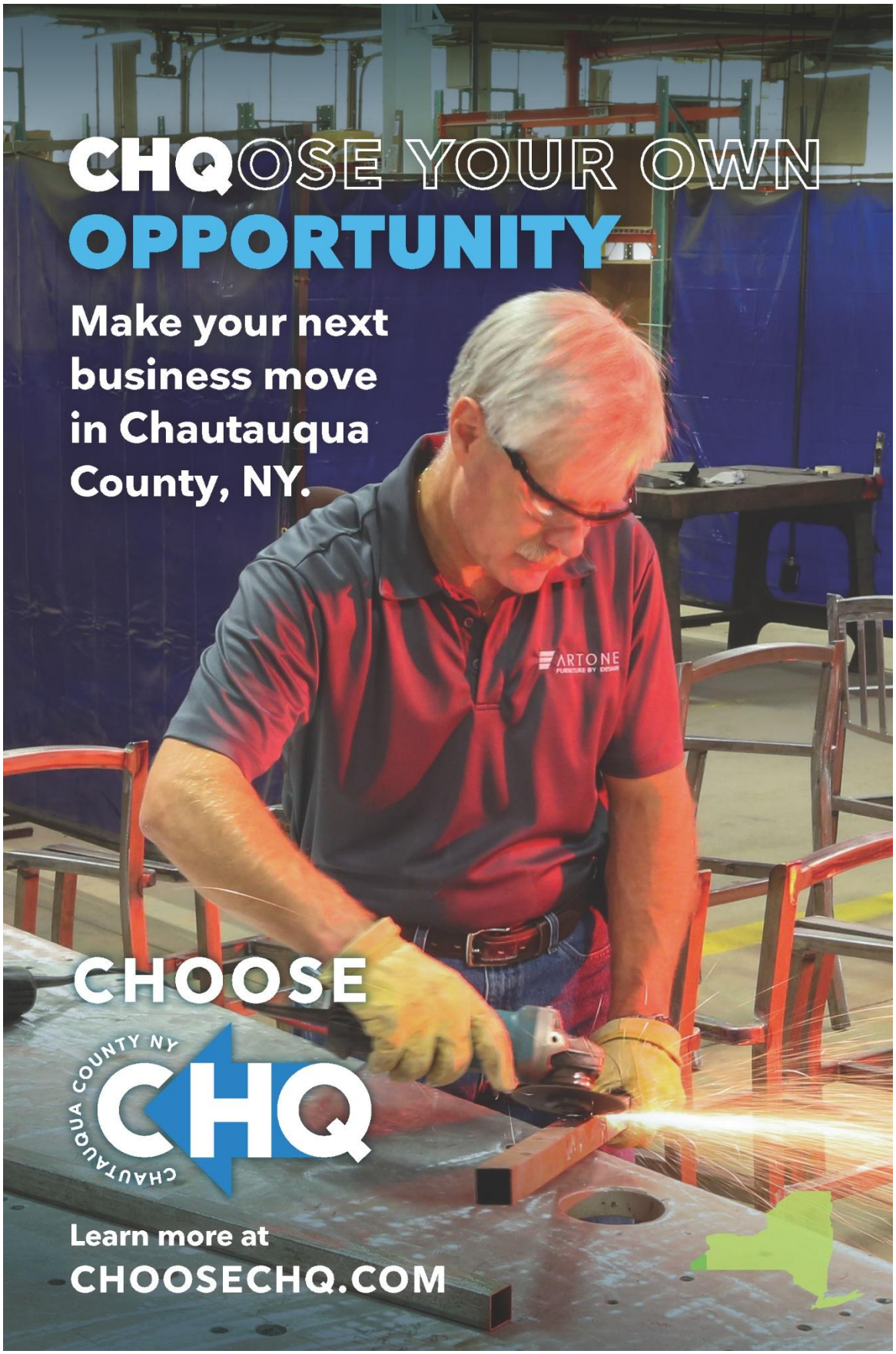
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Conference Tracks

Concurrent Sessions I (Thursday - 9:30am) Tracks 1-4

Track 1: Financial Insights I

Room: WC S204A (9:30 am - 10:50 am)
Moderator: TBA

1.1 When Do Markets React to News? Evidence from Abnormal Social Media Attention

Author: Ziqian Song *(University of Scranton)*

When do markets react to negative news? We argue that market reaction depends not only on the news itself, but also on whether the news attracts abnormal, event-relevant attention on social media shortly after release, and whether such attention is generated by credible users. Using negative news events for S&P 500 firms, we collect tweets mentioning the focal firm within one hour of each event and use a large language model (LLM) to assign each tweet a relevance score to the underlying event. We aggregate these scores into an event-level attention measure, isolate its abnormal component, and test whether it predicts short-horizon market reaction. We find that abnormal event-relevant attention is positively associated with the probability of market reaction, and that this relation is stronger when a larger share of the attention comes from credible users. The results suggest that social media is an observable layer of information processing through which public news becomes salient enough to move prices.

1.2 Three Business Analytics Approaches for Altman's Z-Score Model in the Healthcare Industry: A Data Envelopment Analysis

Authors:
C. Christopher Lee *(Central Connecticut State University)*
Ying-Chih Sun *(East Central University)*
Jeong Hoon Choi *(Youngstown State University)*
Donghyup Woo *(University of Pittsburgh at Greensburg)*
Shihui Fan *(Central Connecticut State University)*

This study compares three methodologies for evaluating hospital performance: logistic regression, Tobit regression, and machine learning. Few studies have compared the three approaches. No prior studies have done such a comparative study on the healthcare industry, using the 2020 AHA datasets and Altman's Z-score model. Hospital technical efficiency, measured via data envelopment analysis, serves as the dependent variable. The research framework is based on Altman's Z-score model, utilizing five financial ratios—liquidity, long-term profitability, short-term profitability, solvency, and asset efficiency—as independent variables. Analysis is conducted using the 2020 American Hospital Association U.S. Hospital Survey dataset (N = 6165). Initial logistic regression results indicate that liquidity and short-term profitability are statistically significant predictors of hospital performance, while long-term profitability, solvency, and asset efficiency are not. The study will also present findings from Tobit regression and machine learning models, followed by a comparative analysis. Additional examination of hospital characteristics—including hospital size (number of beds), location (rural vs. urban), ownership type (government, private not-for-profit, and for-profit), teaching status (teaching vs. non-teaching), and system affiliation (independent vs. system-affiliated)—will be provided. Theoretical implications are discussed. It is expected that this research addresses a gap in business analytics literature as well as healthcare literature and offers practical insights for hospital

administrators and policymakers.

1.3 Predictive Analytics for Consumer Loan Default Risk Assessment

Authors:
Bong Keun Jeong *(Coastal Carolina University)*
Ryan Avallone *(Coastal Carolina University)*

Evaluating consumer loan applications is a critical task for financial institutions, as loan repayment outcomes are influenced by multiple borrower- and loan-specific characteristics that must be assessed jointly to mitigate default risk and potential financial losses. Accurate assessment of credit risk plays a central role in lending decisions, portfolio management, and regulatory compliance. This study utilizes a publicly available LendingClub loan data to examine the factors most strongly associated with consumer loan default and to evaluate the effectiveness of predictive modeling approaches in this context. Several supervised machine learning techniques, including naïve Bayes, logistic regression, discriminant analysis, k-nearest neighbors, and classification trees, are implemented and systematically compared. Following standard data cleaning and preprocessing procedures, the models are trained and evaluated using out-of-sample testing to assess their ability to distinguish between defaulted and non-defaulted loans. Model performance is assessed in terms of both predictive accuracy and interpretability, with the objective of gaining insight into how borrower characteristics influence loan repayment behavior. The results demonstrate the effectiveness of predictive analytics in supporting data-driven and informed consumer credit risk assessment.

1.4 The Structure of U.S. Domestic and Foreign Consumption Risks: Evidence from the G-7

Authors:
Tai Yi *(State University of New York at Fredonia)*
Sean Sehyun Yoo *(Belmont University)*

This paper develops model-based estimates of U.S. investors' perceptions of both domestic and foreign consumption risks across the G-7 economies, including the United States, the United Kingdom, Canada, France, Germany, Italy, and Japan. We posit that these consumption risks are fundamentally shaped by each country's industrial structure, such as the relative importance of manufacturing, services, and trade exposure. As a result, we hypothesize that domestic and foreign consumption risks share a long-run cointegrating relationship that reflects these underlying structural characteristics. Relying on the standard international intertemporal consumption model, we derive forecasts of expected returns and use them to construct forward-looking measures of consumption risk. Empirical results indicate a notable decline in consumption risk among Eurozone countries and the United Kingdom. Moreover, we find strong evidence of cointegration between U.S. domestic and foreign consumption risks in the post-euro period from January 1999 through September 2024, suggesting increasing long-run integration in risk perceptions.

Track 2: Analytics in Business Education I

Room: WC S204B (9:30 am - 10:50 am)
Moderator: Shazad Mohammed *(State University of New York at Fredonia)*

2.1 Integrating Technical Communication Skills into the First Course in Business Analytics

Author: Mark A. Nadler *(Ashland University)*

Employers consistently emphasize that effective communication is a core competency for data scientists and business analysts. Yet, many business analytics programs focus almost exclusively on technical modeling, leaving students underprepared to communicate analytical results to decision-makers. This presentation describes a framework for embedding technical communication—specifically, report writing, professional presentations, and poster design—into the first course in business analytics.

Drawing on classroom experience from a required introductory course in business analytics for majors and minors, the presentation outlines a structured, three-hour instructional package that introduces students to three essential communication formats: the technical report, the technical PowerPoint presentation, and the technical poster. Each module is designed to complement the data analytics workflow—problem definition, data analysis, and interpretation—so that students learn to communicate insights clearly, concisely, and visually.

Attendees will gain practical content for teaching communication skills in analytics courses, covering written reports, data-driven slides, and posters suitable for capstone showcases or undergraduate research events. The framework is flexible enough to adapt to different institutional settings and course levels. In addition, ChatGPT prompts are provided covering every aspect of preparing a technical report.

The goal is to help instructors equip students not only to analyze data but also to craft evidence-based narratives that inform and influence business decisions. By integrating communication training early in the curriculum, we can produce graduates who are not just technically capable but professionally competent in sharing the results of their analytical work.

2.2 Student Perceptions of Artificial Intelligence and the Impact on Their Academic Performance

Author: Andrea Smith-Hunter *(Siena University)*

Education technologies are not new. The US educational technology history may be seen as an offshoot of the socio-economic and political aspirations of post-World War II and the Cold War era technological battles. It may be accurate to say that digital technologies saw two significant phases: personal computing in classrooms in the 1970s and 1980s and connected internet technologies in the 1990s. Today, we see generative Artificial Intelligence (AI) tools like ChatGPT today in higher education. Student perceptions of AI and its impact on academic performance are critical to the current debate on the role of AI in higher education. Based on student survey data from an upstate New York college, this study examines the factors influencing students' perceptions of the effectiveness of AI applications, particularly ChatGPT, in improving academic performance. Parental education and student interest in AI emerged as positive predictors. Though students are aware of the problems associated with over-dependence on AI and a possible impact on the traditional teacher-student mentoring relationships, they believe AI tools would enhance academic performance.

2.3 Is Excel Dead? How Do We Teach Data Literacy in the AI Era?

Author: Roger Woods *(Michigan Technological University)*

The current generation of college students are accustomed to apps, internet searching and AI to answer questions. With the push towards Artificial Intelligence fluency in the classroom and workplace, how do we develop critical thinking skills related to data analysis?

Recent news articles in the Wall Street Journal highlight this environment with WSJ article on UC - San Diego noting that 1 in 12 incoming freshmen can't do middle school math. The language of

business is based on math; arithmetic, algebra and even more complex math in economics, finance and operations. Being able to fluently translate a business scenario into mathematical components is a key aspect of business education.

According to another article "AI will get better and better, but the most important skill in the white-collar field now is critical thinking" The authors pose the question of how do we get junior employees to learn without AI so that they have the cognitive skills to do more complex jobs 1-5 years into the workforce?

60% of my current students self-reported little or no Excel experience before starting my introduction to decision science class. Follow-on courses focus on business analytics and require critical thinking skills, will they have the skills necessary to succeed? Using Excel allows students to see the data and mathematical relationships clearly without being obscured by complex code. The challenges of working with Excel to teach mathematical and critical thinking skills will be presented with a structured discussion of what needs to be done in the future.

2.4 Enhancing Accounting, Business Statistics and Economics Instruction Through Student-Generated Data: A Practical Framework for Engagement and Skill Development

Author: David Jacome *(State University of New York College at Brockport)*

This paper introduces an innovative instructional framework for improving the teaching and learning of accounting, business statistics and economics at a medium-sized public university in the Northeastern United States. The approach centers on the use of student-generated survey data to deepen conceptual understanding and increase engagement with statistical methods commonly applied in accounting, economics and business analytics.

Students design and administer surveys on topics of personal or current relevance, promoting ownership of the data collection process. The resulting datasets serve as the foundation for applied learning in data analysis, statistical inference, and data visualization. Leveraging industry-standard tools such as Tableau and Power BI, students gain hands-on experience in transforming raw data into actionable insights, fostering both technical proficiency and critical thinking.

Key advantages of this method include heightened student motivation, reduced reliance on costly third-party datasets, and enhanced comprehension of core statistical principles. Additionally, the accumulation of student-generated data across semesters supports longitudinal analysis, offering opportunities for more advanced exploration in upper-level courses and collaborative research.

This framework contributes to a scalable, cost-effective, and pedagogically rich model for integrating active learning, data literacy, and decision-making skills into the accounting, business statistics and economics curriculum.

Track 3: Sports Analytics

Room: WC S204D (9:30 am - 10:50 am)
Moderator: Soumik Banerjee *(Canisius University)*

3.1 Opponent-Aware Modeling of Match Outcomes in Elite Volleyball

Authors:
Ai Ren *(SUNY New Paltz)*
Qi Li *(SUNY New Paltz)*

Renee Bostic *(SUNY New Paltz)*
Chloe Choi *(SUNY New Paltz)*
Riley K. Guzman *(SUNY New Paltz)*
Matt Giufre *(SUNY New Paltz)*
Radu Petrus *(SUNY New Paltz)*
Brian Williams *(SUNY New Paltz)*
Tony Bonilla *(SUNY New Paltz)*

Volleyball match outcomes are shaped by a complex interplay of serving, reception, attack, blocking, and defensive sequences, yet most prior analyses have focused narrowly on isolated team metrics. This study introduces an opponent-aware modeling framework to identify the key determinants of victory in elite volleyball competition.

We use a match-level dataset in which each observation represents a team's performance against a specific opponent. We employ key factor variables including ACE, reception quality, attack and block efficiencies, and defensive transition scoring. We also introduce several opponent features and metrics to differentiate opponent performance. Our study adopts rotation-level matchup statistics and contextual variables to control for other unobservable characteristics.

Results demonstrate that net reception quality and net attack efficiency are the most consistent predictors of victory, with serve error rate exerting a significant negative influence. Opponent style interactions reveal that block effectiveness is particularly decisive against teams with high pipe usage, while serve targeting success strongly moderates outcomes against opponents with weak receivers.

This opponent-aware framework advances volleyball analytics by integrating technical, contextual, and opponent features, offering both theoretical insight and actionable guidance for performance optimization.

3.2 Modeling Systemic Change in Collegiate Athlete Mobility: A Markov Chain and Information-Theoretic Analysis of Pre- and Post-NIL Eras

Author: David Mahalak *(University of Scranton)*

This study quantifies systemic changes in collegiate athlete mobility following the National Collegiate Athletic Association's (NCAA's) 2021 reforms, which concurrently introduced Name, Image, and Likeness (NIL) rights and immediate eligibility for first-time transfers. Using roster data from Division I Football Bowl Subdivision (FBS) programs, we compare two structurally distinct eras: a restricted-mobility environment (2011–2015) and the open-mobility NIL era (2021–2025). We model player movement as a discrete-time Markov process across three mobility states, Stay, Transfer, and Exit, and evaluate structural divergence using Jensen-Shannon Distance (JSD).

Results reveal substantial reallocation in system-level outcomes: transfer probability increased from 0.34% to 9.38%, confirmed by a highly significant two-proportion z-test ($z = -60.56$, $p < 0.001$). A chi-square test also identifies a significant distributional shift across Stay, Transfer, and Exit states ($\chi^2 = 3677.26$, $p < 0.001$; Cramér's V = 0.205). Transition behavior changed meaningfully, with large row-wise divergences in Stay→* (JSD = 0.265) and Transfer→* (JSD = 0.262) transitions, where "*" denotes the distribution over all subsequent states. Temporal patterns show rapid year-over-year acceleration of transfers from 2021–2024.

Long-run dynamics also differ meaningfully; the quasi-stationary distributions (conditional on not exiting) diverge strongly across eras (JSD = 0.311), indicating a substantial reweighting of the active player pool from ~1% transfers (2011–2015) to ~22% transfers (2021–2025).

Collectively, these findings demonstrate that NIL and immediate-eligibility reforms produced a measurable structural transformation in athlete mobility, shifting the NCAA football ecosystem toward a more fluid, market-like system of player movement.

3.3 Identifying Player Behavioral Types in Online Bridge Tournaments: A Finite Mixture of Logistic Regressions Approach

Author: Paul Holmes *(Ashland University)*

We apply a finite mixture of logistic regressions (FMLR) model to analyze tournament entry decisions of online contract bridge players. We compare the results of this model to a standard logistic regression model, applied to our population of 269,326 contract bridge tournament entry decisions made by 452 players from 2018–2022. Our FMLR model identifies seven clusters of players with distinct decision-making processes and achieves a 59% improvement in predictive accuracy compared with a baseline logistic regression model. We then use the FMLR model results to estimate the effect of changes in prize structures on participation and make other suggestions for how to increase the chance tournament entrants will play again.

Track 4: Emerging Scholars I

Room: WC G103B (9:30 am - 10:50 am)
Moderator: Megan Johnson *(State University of New York at Fredonia)*

4.1 Predictive Analytics for Retail Credit Approval: A Classification and Visual Decision Support Approach

Author: Vivi Tan *(State University of New York at Buffalo)*

This study presents a practical analytics project developed as part of the MGS 649 MS Practicum, focusing on predictive analytics for retail credit approval. Retail businesses frequently offer store credit or installment payment plans to increase sales; however, evaluating customer creditworthiness remains a challenging operational decision that often relies on subjective judgment. This project applies data-driven analytics to improve consistency, efficiency, and transparency in retail credit approval processes, helping managers make faster and more reliable decisions.

Using the UCI Credit Approval dataset, binary classification models including logistic regression and decision tree algorithms were implemented to predict approval outcomes. Data preprocessing techniques such as missing value handling, categorical encoding, and feature standardization were applied prior to modeling to ensure data quality and model stability. Model performance was rigorously evaluated using accuracy, confusion matrices, ROC curves, and AUC metrics to assess predictive reliability and interpretability.

Based on predicted approval probabilities, customers were segmented into high risk, medium risk, and low risk groups. An interactive dashboard was developed to translate analytical outputs into actionable managerial insights for retail decision makers. Color-coded visualization with red representing high risk, yellow representing medium risk, and green representing low risk enables managers to rapidly assess applicant risk without requiring technical expertise in machine learning models or complex statistical methods.

The proposed approach demonstrates how predictive analytics combined with visual decision support can effectively reduce subjective decision making, improve approval consistency, and enhance operational efficiency. This framework provides a scalable and transferable analytics solution applicable across retail and financial service environments requiring rapid risk assessment and data supported decision making.

4.2 A Cloud-Native FP&A Analytics Architecture for Scalable, Auditable Financial Reporting Using Excel

Author: Adinath Kadam *(Stevens Institute of Technology)*

Financial Planning & Analysis (FP&A) teams are under mounting pressure to keep pace with expanding data volumes, often encountering bottlenecks in scalability, auditability, and refresh times. Despite these challenges, Excel remains the primary analytical tool for many organizations. In this paper, we introduce a cloud-native FP&A analytics architecture that seamlessly retains Excel as the user interface while shifting complex data transformations upstream into a managed data pipeline. Our approach leverages infrastructure-as-code practices, deterministic aggregation logic, and refresh-focused workflows to deliver SaaS-like benefits, scalability, consistency, and reliability without necessitating disruptive enterprise platform migrations.

To evaluate the effectiveness of this architecture, we conducted a case study using a multi-million-row transactional dataset. We assessed improvements in refresh performance, consistency across repeated executions, and the operational workload required before and after the redesign. Our results show that the new approach delivers stable, predictable refreshes at scale, dramatically reduces repetitive manual work, and enhances auditability through centralized, version-controlled logic. We also compare our methodology to other common strategies such as direct Excel-based transformations, BI-first pipelines, and notebook-driven analytics, discussing the unique trade-offs each presents for FP&A teams.

The findings offer a practical pathway for finance organizations to modernize analytics infrastructure while continuing to operate within familiar Excel-centric processes. By aligning cloud-native engineering principles with FP&A operating realities, the paper contributes an applied architectural framework for scalable financial analytics in industry settings.

4.3 Retrieval-Augmented Expressive Audio Generation with Multi-Instrument Neural Architectures

Authors:
Utkarsh Jha *(Fordham University)*
Dawit Demissie *(Fordham University)*

This paper presents a modular deep learning framework for retrieval augmented expressive audio generation in a multi instrument setting. The system operates in an audio conditioned paradigm, transforming a raw musical seed into a structured ensemble performance. Instrument specific decoders combine multi layer GRUs with Differentiable Digital Signal Processing (DDSP) to synthesize high fidelity harmonic and noise components, while a Transformer Conductor models long range structural dependencies and cross instrument dynamics.

A central contribution is a Music Specific Retrieval Augmented Generation mechanism for audio that grounds musical continuation in a large database of pre analyzed audio segments. Candidate segments are ranked using a composite score that balances stylistic relevance and seam coherence, ensuring smooth pitch and loudness transitions across segment boundaries. Experiments across symbolic and large scale multitrack datasets demonstrate that scaling model capacity and data diversity improves perceptual realism, though human listening evaluations reveal that quantitative similarity metrics alone do not fully predict musical preference.

The framework is deployed as an interactive Node based inference service with a React front end, enabling real time exploration of retrieval grounded musical augmentation.

Concurrent Sessions II (Thursday – 11:00am) Tracks 5-7

Track 5: Healthcare Analytics

Room: WC S204A (11:00 am - 12:20 pm)
Moderator: Shazad Mohammed *(State University of New York at Fredonia)*

5.1 The Hidden Cost of Simplicity: Comparing LASSO and Random Forest for Clinical Data Imputation

Author: Soumik Banerjee *(Canisius University)*

Handling missing data is a critical step in preparing clinical datasets for predictive modeling. This study compares the performance of LASSO regression and Random Forest (RF) imputation in the context of a real-world diabetes dataset, where variables such as Insulin and BMI commonly have missing (zero) values. We treated zeros as missing and applied both LASSO and RF-based imputation strategies. While RF imputation preserved physiological plausibility—producing only non-negative values—LASSO imputation occasionally returned negative values for variables that cannot logically be negative, such as insulin levels. These findings highlight a crucial limitation of linear model-based imputation when applied to clinical variables and underline the importance of algorithm selection for ensuring data validity in healthcare analytics. Our results support Random Forest as a more robust method for imputing missing values in datasets with nonlinear, correlated variables and biological constraints.

5.2 Factors Impacting Quality of Patient Care: A Case of Readmission Rate

Authors:
Danielle M. Morris *(Central Connecticut State University)*
C. Christopher Lee *(Central Connecticut State University)*
Peiyao Chen *(Central Connecticut State University)*

This study investigates the relationship between a set of four operational and clinical factors and the quality measure. The four factors serve as independent variables including (1) transition-of-care within 30 days, (2) post-discharge medication continuation, (3) follow-up care within 30 days, and (4) use of seclusion. 30-day psychiatric readmission rates at inpatient psychiatric facilities in the United States measure the quality of patient care, serving as the dependent variable. Data were sourced from the Inpatient Psychiatric Facility Quality Reporting (IPFQR) program downloaded from the Centers for Medicare & Medicaid Services (CMS) website and the American Hospital Association (AHA) 2020 U.S. Hospital Survey datasets, then merged, cleaned, and analyzed. An ordinary least squares (OLS) multivariate regression model will assess the impact of the four variables on readmission rates. The study also examines the moderating effects of hospital characteristics (size, location, ownership type, teaching status, and system affiliation) and controls for staffing levels, such as nurse-patient ratios. Much research has been done on the readmission rate. This study is among the first to combine four operational and clinical measures simultaneously to evaluate their collective impact on psychiatric readmissions. By benchmarking facility performance against state and national averages, the findings aim to inform hospital quality improvement initiatives, cost-management strategies, and operational decisions to reduce avoidable psychiatric readmissions. Improved continuity of care and reduced readmissions are expected to enhance patient outcomes, optimize resource utilization, and support more sustainable, patient-centered care.

5.3 When Do ESG Initiatives Influence Hospital Performance? The Moderating Role of Ownership Type

Authors:
C. Christopher Lee *(Central Connecticut State University)*
Tiffany Palmer *(Central Connecticut State University)*
Shoaib Raza *(Central Connecticut State University)*
Rajashri Paricharak *(Central Connecticut State University)*
Hyoun Sook Lim *(Central Connecticut State University)*

This study examined the relationship between ESG initiatives and hospital performance, as well as the moderating effects of ownership type. Hospital performance was assessed using hospital efficiency, profitability, and quality. Three hospital ownership types - government, not-for-profit (NFP), and for-profit (FP) - were used to test their moderating effects on the relationships between ESG and hospital performance. We hypothesized that ESG was positively related to efficiency (H1a); ownership type moderated the effect of ESG on the efficiency (H1b); positive relationship between ESG and profitability (H2a); the moderating effect of ownership type (H2b); positive relationship between ESG and hospital quality (H3a); the moderating effect (H3b).

Data were obtained from the 2020 American Hospital Association (AHA) and Centers for Medicare & Medicaid Services (CMS) datasets. From the AHA, we measured efficiency using Data Envelopment Analysis (DEA); profitability using Return on Asset (ROA), and ESG using 34 survey items, while we measured quality using the hospital overall rating (HOR) from the CMS. We employed logistic regression and multiple regression analyses to test hypotheses.

ESG was were significantly and positively related to DEA scores ($p < .05$), thus providing support for H1a, but no support for H1b due to no significant interaction effect. Data showed no support on H2a and H2b. ESG was significantly and positively related to HOR, thus providing support for H3a. The interaction effect between ESG and NFP was statistically significant ($p < .05$), whereas the interaction effect between ESG and FP was not statistically significant, providing partial support for H3b.

5.4 Functional Meta-Analysis of Dose-Response Curves: Alcohol Consumption and Colorectal Cancer Risk

Authors:
Justin Petrovich *(Saint Vincent College)*
Sungwook Kim *(Saint Joseph's University)*
Bahaeddine Taoufik *(Saint Joseph's University)*

A central problem in healthcare analytics is determining how risk and benefit evolve across increasing treatment exposure. For instance, in studies of alcohol consumption and colorectal cancer, researchers seek to determine whether risk increases steadily, plateaus, or exhibits nonlinear behavior across moderate to high levels of intake. Commonly used dose-finding models, such as Emax, quadratic, and other parametric nonlinear forms, impose restrictive shape assumptions that can misrepresent non-monotonic or unimodal dose-response relationships observed in practice. In this paper, we introduce a functional data approach to dose-response meta-analysis that flexibly estimates efficacy and toxicity probability curves across dose levels without requiring strong parametric assumptions. Rather than treating dose effects as isolated points, we model the entire probability curve as a smooth function and estimate it using information pooled across studies.

We demonstrate the value of this approach using a meta-analysis of alcohol consumption and colorectal cancer risk. In addition to estimating dose-specific risk probabilities of alcohol

consumption, we introduce a decision-oriented summary measure: the Area Under the Risk Curve (AUR), which captures cumulative exposure risk by integrating across the observed dose range. Whereas many dose-response studies aim to find an optimal dose, the AUR is a more meaningful measure in the context of alcohol consumption and provides a complementary and often more interpretable summary for policy and clinical decision-making.

Track 6: Business Analytics in Organizations

Room: WC S204B (11:00 am - 12:20 pm)
Moderator: Joseph Porter, Jr *(Nazareth University, USA)*

6.1 Dual-Track Business Analyst Model: Why the Distinction Matters for Organizational Performance

Author: Eren Akdur *(Ithaca College)*

Organizations increasingly expect "Business Analysts" to both define the right solutions and generate advanced data insights. While both capabilities are critical, combining them under a single role often creates misaligned expectations, recruitment challenges, delivery inefficiencies, and unclear career paths. Teams struggle to balance requirements gathering, stakeholder alignment, and process design with advanced analytics work, leading to overextended staff and under-realized organizational value.

The Dual-Track Analyst Model provides a practical framework to address this challenge by distinguishing two complementary roles:

- Business Analysis Professionals - responsible for requirements elicitation, stakeholder alignment, process design, solution evaluation, and ensuring value realization.
- Business Analytics Professionals - responsible for data exploration, modeling, visualization, statistical reasoning, and delivering actionable decision-support insights.

Drawing on real-world organizational patterns and community survey data, this session explores:

- Common failure points when these roles are blurred
- Impacts on recruitment, talent development, and project delivery
- How role ambiguity affects collaboration and outcomes
- Practical steps for defining competencies, clarifying expectations, and establishing responsibilities

Participants will also examine strategies for structuring collaboration between solution and analytics teams, ensuring both tracks complement rather than compete with each other. By the end of the session, attendees will leave with a clear, actionable framework to:

- Improve role clarity and alignment within their organizations
- Strengthen hiring, onboarding, and performance management practices
- Reduce friction between business, technology, and analytics functions
- Build sustainable career paths for both analyst tracks

Ultimately, this session provides organizations with the guidance needed to deliver the right solutions while leveraging advanced data insights. Participants will gain practical tools to clarify roles, optimize talent, and enhance project outcomes-enabling better decision-making and long-term organizational success.

6.2 How Firms Make Location Decisions: Survey Findings from Canada and the UK

Authors:
Tony Hernandez *(Toronto Metropolitan University)*
Joseph Aversa *(Toronto Metropolitan University)*
Jonathan Reynolds *(University of Oxford)*
Steve Wood *(University of Exeter)*

Location is a critical factor in determining the success of retail and service firms. Over the last half-century, in parallel with innovations in data, techniques and technology, several studies of location decision-making practices amongst consumer-facing businesses have highlighted the increasing sophistication of decision-support activities. In recent years, the rapid coupling of big data, data science (especially artificial intelligence) and cloud computing has been a significant catalyst for change in decision-making practice. This paper reports the latest findings from an international survey of location decision-making practitioners from retail and service firms in Canada and the UK. The survey focused on the type and scale of location decisions the firm undertakes, the availability and use of technology and geospatial data in the decision-making process, the range of location research methods employed within the firm, and the firm's decision-making culture. The findings reveal the scope of location decision-making, the wide variety of data and techniques employed, and the challenge of effectively integrating AI into decision-making practice. Differences across countries, sectors, firm size, and practitioner experience are discussed. The paper concludes by identifying future research directions and outlining the follow-up interview phase of the research.

6.3 Leadership and Employees' Innovative Work Behavior: A Mediation Perspective

Author: Lipika Arif *(State University of New York at Fredonia)*

The purpose of this study is to investigate the influence of leadership on employees' innovative work behavior. This study focuses on leader-member exchange (LMX) relationship, leader mindfulness, and leader integrity to predict employees' innovative work behavior. Although studies found that leaders' behavior has an influence on employees' work behavior, not many studies focus on explaining this relationship from the role of affect-based trust. Therefore, the current study examines the mediating role of affect-based trust to explain the relationship between leadership behaviors and employees' innovative work behavior. For this quantitative study, data were collected from 243 (n=243) full- time teachers and staff from a Public-School System. Data were analyzed using the PROCESS macro to test the proposed model. The findings of the study indicate that all three leadership behaviors have positive impacts on employees' affect-based trust, which in turn impacts their innovative work behaviors. Therefore, this study signifies how leaders' behaviors contribute to productive and positive work outcomes by building a culture of trust. Additionally, this study brings the necessity of initiating and implementing targeted training and development interventions for organizational leaders, thus achieving the organizational performance.

Track 7: Financial Insights II

Room: WC S204D (11:00 am - 12:20 pm)
Moderator: Lisa Walters *(State University of New York at Fredonia)*

7.1 Linking Environmental Management Capability to Brand Value: The Mediating Role of Consumer Perceptions

Authors:
James Cordeiro *(SUNY Brockport)*

Joon Yong Seo *(St John Fisher University)*
Savisesh Malampallayil *(SUNY Brockport)*

Despite the centrality of corporate environmental capabilities to socially responsible competitive strategy, the marketing pathways that convert these capabilities into monetizable brand value remain underdeveloped. Drawing on a range of theories, we develop and test a path model in which Corporate Environmental Management Capability (CEMC) increases brand value through consumer green perceptions (CGR). Empirical testing on 196 US firms shows that CEMC strongly predicts CGR which in turn positively predicts dollar brand value. Bootstrapped indirect effects from capability to brand value through CGR are positive and marginally significant, while direct effects remain significant. These results indicate partial mediation, suggesting additional channels (e.g., capital market risk perceptions). We confirm the frequentist SEM evidence with complementary Bayesian estimation of key paths and mediation.

7.2 Using Financial Data to Identify Early Warning Signs of Corporate Bankruptcy

Authors:
Bong Keun Jeong *(Coastal Carolina University)*
Maya Kwiatkowski *(Coastal Carolina University)*
Soo-Yeon Ji *(Bowie State University)*

Evaluating corporate bankruptcy risk important for investors, managers, and financial analysts, as corporate financial distress results from the combined effects of multiple firm-level financial characteristics. Accurate assessment of bankruptcy risk supports informed investment decisions, effective managerial planning, and improved risk evaluation. This study utilizes a publicly available U.S. corporate bankruptcy dataset to investigate which financial variables are most strongly associated with a firm's bankruptcy status. Multiple machine learning techniques are implemented and systematically compared, including naïve bayes, discriminant analysis, logistic regression, k-nearest neighbors, and classification trees. Prior to model development, standard data cleaning and preprocessing procedures are conducted to address missing values, scaling issues, and data consistency. The models are trained and evaluated using out-of-sample testing to assess their ability to accurately distinguish between bankrupt and non-bankrupt firms. Model performance is evaluated based on both predictive accuracy and interpretability, enabling meaningful comparison across methods. The primary objective of this research is to identify key financial indicators that serve as early warning signals of corporate financial distress and to assess the relative effectiveness of alternative classification approaches in bankruptcy prediction. The findings demonstrate how corporate financial data, when combined with analytical classification methods, can support more informed, data-driven, and practical bankruptcy risk assessment.

7.3 Advanced Data Analytics Tools Across Accounting Sub-Specialties: A Task/Technology Fit Study

Author: Barbara Lamberton *(University of Hartford)*

This study explores whether demand for advanced data analytics skills varies across accounting sub-specialties, guided by the task/technology fit (TTF) model. The TTF model suggests that a technology's effectiveness depends on how well it supports the task requirements of a given job. While accounting education covers topics across sub-specialties (such as audit, financial, managerial, tax, and systems), actual job responsibilities differ. Excel proficiency is sufficient in some situations, but employers expect advanced competency in others.

To investigate these differences, job codes published by the United States Bureau of Labor Statistics were combined with task and technology data from the ONET Online database. ONET provides

detailed data on required tasks and technologies by job code, as well as the most demanded technologies based on employer job postings.

The selection of job codes included managerial, specialist, and clerical accounting-related positions. For each required task, descriptions were reviewed and cross-referenced with high-demand technologies, and the number of tasks that were supported by advanced analytics tools was identified. In this study, Excel was classified as a basic analytics tool and appeared as an in-demand technology across many job codes.

The results showed strong alignment between tasks requiring advanced analytics and the demand for advanced analytics technologies. The implication is that where advanced analytics tasks are shown, employers seek candidates who can use advanced analytics tools; otherwise, the in-demand technologies show Excel rather than the more advanced tools.

Track 8: Emerging Scholars II

Room: WC G103B (11:00 am - 12:20 pm)
Moderator: Lisa Walters *(State University of New York at Fredonia)*

8.1 Automation Without Alienation: A Human Impact Measurement Framework for AI-Driven Process Optimization

Author: Zirah Takunda Migioni *(State University of New York at Buffalo)*

Artificial intelligence (AI) is becoming increasingly embedded within enterprise process optimization initiatives, with big claims promising improvements in efficiency, accuracy and cost reduction. However, prevailing optimization frameworks, rooted in Lean, Six Sigma and data-driven performance metrics, prioritize operational outputs while largely overlooking the human consequences attached to automation. This efficiency-centric paradigm risks generating unintended downstream outcomes such as reduced worker autonomy, reduced accountability, skill degradation, cognitive overload and diminished trust or borderline resentment of AI systems.

This paper introduces a conceptual Human Impact Measurement Framework (HIMF) designed to complement traditional performance metrics in AI-driven process optimization. Drawing from socio-technical systems theory, human-centered design principles and contemporary research on AI-augmented work, the framework will zero in on five measurable dimensions of human impact: cognitive load, autonomy and agency, skill sustainability, psychological well-being, trust and transparency. The framework demonstrates how these dimensions can be operationalized and integrated into structured improvement methodologies such as DMAIC.

By proposing a dual-optimization model that evaluates both efficiency outcomes and human sustainability, this study advances a more balanced approach to enterprise analytics. The paper contributes a structured foundation for future empirical testing and offers practical guidance for organizations seeking to deploy AI systems without undermining workforce resilience and long-term organizational capability.

8.2 Evaluating Neural Networks vs. Rule-Based Detection for DDoS Identification in Cyber Threat Intelligence

Authors:
Ashley Chisler *(Fairmont State University)*
Alec Stowers *(Fairmont State University)*
Robert G Cutlip *(Fairmont State University)*

Gary Edwards *(Fairmont State University)*
Rebecca Giorcelli *(Fairmont State University)*

In today's complex cyber threat landscape, Distributed Denial of Service (DDoS) attacks remain a persistent threat. With the rapid evolution of sophisticated tactics, techniques, and procedures involving Artificial Intelligence, advanced countermeasures using neural networks can enhance Cyber Threat Intelligence (CTI) by improving detection fidelity and enabling downstream enrichment and alerting. This project examines the use of neural networks to support CTI, with a focus on DDoS detection. In addition to the DDoS case study, we review common neural network architectures and their broader applications in CTI. With the use of the CICIDS2017 dataset, we empirically compare three detection approaches: a standard multi-layer perceptron (MLP), a smaller MLP, and a rule-based system. Performance is evaluated using precision, recall, and F1 score to balance false positives and false negatives. Both neural network models achieved near-perfect performance (F1 = 0.9990, precision = 0.9997, recall = 0.9982), while the rule-based model's performance was substantially lower (F1 = 0.7297, precision = 0.5744, recall = 1.0000), indicating high sensitivity but many false alarms. These findings suggest that even relatively simple neural network architectures can substantially improve DDoS detection accuracy over static rule logic, potentially reducing analyst workload and misclassification risk in operational security environments. We also discuss limitations related to using a single labeled dataset and outline future work to validate generalizability across additional attack types and network contexts.

8.3 Robotic Process Automation: RPA as a Catalyst for Intelligent Data Augmentation in Machine Learning Ecosystems

Authors:
Utkarsh Jha *(Fordham University)*
Dawit Demissie *(Fordham University)*

Robotic Process Automation (RPA) has become a central element of organizational automation strategies, with adoption accelerating alongside advances in artificial intelligence (AI). Despite this growth, RPA is frequently framed narrowly as a technical mechanism for task automation, obscuring broader sociotechnical challenges related to data acquisition, governance, reproducibility, and lifecycle management in machine learning (ML) systems. Contemporary ML pipelines remain heavily dependent on structured datasets, curated repositories, and application programming interfaces (APIs), while exploratory data collection from semi-structured web interfaces often continues to rely on manual effort. This reliance introduces inefficiencies, limits scalability, and creates inconsistencies that can affect downstream analytical performance and reproducibility.

This study addresses these limitations by validating a scalable RPA framework designed to automate secondary research and metadata acquisition from semi-structured digital environments. Using UiPath to extract model metadata from Hugging Face, we demonstrate that RPA-derived features can effectively support machine learning tasks. The resulting dataset, engineered from extracted metadata and transformed into high-dimensional feature representations, enabled a supervised classifier to achieve a classification accuracy of 90.2% in identifying model frameworks. These findings demonstrate that RPA can serve not only as an operational automation tool but also as a foundational component of intelligent data pipelines, enabling scalable, reproducible, and high-quality data acquisition for machine learning research and organizational analytics.

Concurrent Sessions III (Thursday – 2:00pm) Tracks 9-12

Track 9: Analytics in Business Education II

Room: WC S204A (2:00 pm - 3:20 pm)
Moderator:

9.1 The Importance of Data Analytics Skills for Directors of Publicly Held Companies

Author: Melissa Waite *(State University of New York College at Brockport)*

Given the reliance on data-driven strategies, corporate boards face heightened responsibility for overseeing business analytics, cybersecurity, and data governance. This paper examines the critical role of business analytics skills for directors of publicly held companies, integrating aspects of agency theory, resource dependence theory, and human capital theory. Traditional board functions of monitoring management, guiding strategy, and ensuring compliance are evolving in response to data-intensive operations; increasingly, director skills matrices include data analytics expertise. Further, sector-specific risks demand unique proficiencies: financial services, technology, and healthcare firms experience more severe operational disruptions, financial losses, and stock price declines following data breaches than retail, industrial, or consumer packaged goods firms. These patterns highlight the strategic value of directors with analytics expertise in assessing managerial information, guiding incident response, and mitigating data-related risks. Drawing on archival data and breach case studies, formal hypotheses are presented linking industry-specific data exposure, board analytics competencies, and disclosure practices in skills matrices to both short-term market reactions and long-term firm performance. Findings suggest boards with analytics-literate directors are better positioned to reduce abnormal stock price losses after breaches and enhance resilience over time. This underscores that business analytics is no longer solely a managerial capability; it has become a critical governance skill that directly influences firm value and investor confidence. These insights have implications for director selection, corporate governance practices, and the integration of analytics into strategic oversight.

9.2 Incorporating Sustainability into the Undergraduate Accounting, Economics and Finance Curriculum at SUNY Brockport: Bridging Professional Rigor with Sustainable Development

Author: David Jacome *(State University of New York College at Brockport)*

This paper proposes a comprehensive framework for embedding sustainability concepts into the undergraduate Accounting, Economics, and Finance curriculum. Responding to the growing demand for environmentally literate graduates, the model integrates sustainability through a tiered progression aligned with AACSB standards. Using the concept-mapping and importance-performance analysis (dIPA) approach from Building an Industry-Oriented Business Sustainability Curriculum in Higher Education, the framework identifies key competencies including environmental stewardship, ethical responsibility, regulatory compliance, and social accountability.

At the introductory level, students are exposed to foundational themes such as environmental ethics, labor rights, and policy frameworks to build systems thinking early in their coursework. Intermediate courses incorporate applied topics like natural resource accounting, waste and water efficiency, environmental regulatory impacts, and sustainable cost analysis. Advanced electives engage students in high-impact subjects including carbon accounting, greenhouse gas management, sustainable investment analysis, environmental risk auditing, lifecycle costing, and ecological economics.

By bridging environmental and ecological economics with accounting and financial practices, this interdisciplinary model emphasizes the role of economic decision-making in promoting sustainability. The proposed curriculum ensures sustainability enhances rather than replaces core disciplinary content, preparing graduates to address environmental challenges through ethical, data-driven, and sustainability-oriented practices.

9.3 Integrating Data Analytics Across the Undergraduate Business Curriculum: A Strategic Framework for Workforce-Ready Graduates

Authors:
Marilu Marcillo *(Felician University)*
Carlos A. Diaz Restrepo *(Felician University)*

Data analytics has emerged as an indispensable competency for contemporary business professionals. Despite this, numerous undergraduate business programs continue to prioritize managerial theory over the cultivation of practical analytical proficiencies. This research presents a strategic framework to incorporate data analytics competencies into the fundamental business curriculum, with the objective of bridging the gap between the knowledge students acquire and the expectations of prospective employers.

Using the institutional transformation of the School of Business & Information Sciences at Felician University as a case study, this research examines the transition from isolated analytics courses to a curriculum-wide integration model. The framework emphasizes faculty alignment, industry-informed curriculum design, and the incorporation of applied analytics tools, including data visualization, predictive analytics, and artificial intelligence, into business education.

Preliminary results suggest that integrating analytical skills into fundamental business curricula cultivates students' analytical proficiency, enhances workforce preparedness, and bolsters institutional standing. This structure offers practical guidance for educational institutions seeking to update business instruction and facilitate data-informed decision-making in today's business landscape.

Track 10: Applied Economics

Room: WC S204B (2:00 pm - 3:20 pm)
Moderator:

10.1 Changes in Market Factor Structures During Financial Crises and Recovery Periods

Author: Nursel Selver Ruzgar *(Toronto Metropolitan University)*

This study analyzes how market factor structures change during major financial crises and their recovery periods. It uses data from 23 market indices and crude oil prices across five global crises and their recovery periods between 1992 and 2022. Principal Component Analysis with Varimax rotation is applied to identify common factors and compare market behaviour across crisis and recovery periods.

The results show strong and consistent patterns. During crisis periods, factor structures become highly concentrated, typically consisting of two to four dominant factors. Cross-sector correlations increase sharply, often exceeding 0.7, indicating that diversification becomes less effective during crises. In contrast, recovery periods show more complex factor structures, with four to six factors and clearer separation across sectors. As markets stabilize, diversification opportunities gradually return. All results meet standard diagnostic criteria, including strong KMO values, significant Bartlett's tests, and high communalities.

Sector-level analysis shows that Technology consistently leads during recovery periods. Defensive sectors such as Healthcare, Consumer Staples, and Utilities provide better diversification during crises due to lower factor loading. Cyclical sectors, including Energy, Materials, and Industrials, are highly affected during crises but play an important role in recoveries. The role of oil prices varies by crisis type, acting as an amplifier, a driver, or a general crisis indicator.

These findings highlight the importance of adapting portfolio strategies to changing factor structures. The study also proposes factor-based indicators to help identify market regimes and support risk

management decisions.

10.2 Access, Choice, and Learning: The Impact of Public and Private School Enrollment in Kenya

Author: Susan Kibe *(Fairfield University)*

This study investigates the effect of school type on primary school students' learning outcomes in Kenya, using SACMEQ III (2007) data. We employ an instrumental variable (IV) approach to address endogeneity arising from self-selection into public and private schools. While ordinary least squares (OLS) estimates suggest a private school advantage in reading and mathematics, IV results indicate that this advantage disappears once selection is accounted for. Descriptive analysis highlights differences in class size, teacher qualifications, and school resources, suggesting that private schools achieve comparable learning outcomes more efficiently. Household socioeconomic status and home support remain key predictors of achievement. Policy implications include investing in pedagogical quality, optimizing instructional resources, and addressing inequities in learning environments.

10.3 The Societal Impact of Ridesharing Through Gig-Economy Employment: Opportunities and Equality

Authors:
Ayush Sengupta *(Alfred University)*
Sambit Tripathi *(Portland State University)*

In this paper, we consider the overall aspect of social and economic welfare that digital platforms can potentially generate as providers of gig-economy employment in the transportation service industry. This question is widely debated among researchers and policymakers. Some argue that digital ridesharing platforms may help alleviate financial stressors in the economy and benefit society by providing job opportunities and supplementary income with less bias and by improving people's financial situation in the long run. Others suggest that an adverse impact of digital ridesharing platforms on welfare may arise through a reduction in wages in the long run, a stagnation of career growth and income progressions, and reduced job opportunities in the associated traditional industries.

We focus on answering this question empirically by examining the impact of a digital ridesharing platform's entry on income inequality at a given location. We analyze data on household income distribution. Through our analyses, we examine how a ridesharing digital platform's entry influences income levels in society and how the impact varies across locations with different macroeconomic characteristics. Our findings offer insights for digital platform policymakers to devise policies to improve social welfare and alleviate social and economic inequality.

10.4 Supply Chain Pressures and Input Costs for U.S. Industries

Authors:
David Yerger *(Indiana University of Pennsylvania)*
Ramesh Ramamurthy *(Indiana University of Pennsylvania)*
Ionut Vlad *(Indiana University of Pennsylvania)*

This paper contributes to research on the impact of supply chain disruptions upon pricing pressures in U.S. industries from just before the global COVID shock to today. Rather than focus solely upon highly aggregated measures of cost pressures, this research examines detailed industry level data across all available industries. The specific focus of this study is on the causal impacts from global supply chain pressures upon the import prices for intermediate goods across U.S. three-digit NAIC industries. The

import price data for intermediate inputs comes from experimental Bureau of Labor Statistics (BLS) satellite series. The monthly data is available since December 2018 for more than 80 three-digit NAIC industries. Global supply chain pressure is measured using the global supply chain pressure index (GSCPI) created and maintained by the New York Fed. We first test for data stationarity and difference data as needed to achieve stationarity. We then conduct standard Granger-causality testing on the impact, if any, from GSCPI on import prices of intermediate inputs for each of the three-digit NAIC industries. Next, these causality findings are linked to industry-level data from the NBER-CES Manufacturing Industry Database. We examine various industry characteristics to see which characteristics associate with a higher likelihood that GSCPI Granger-causes import prices of intermediate goods for an industry. Characteristics to be investigated include share of imported inputs to total input costs, total materials costs as share of value shipments, capital intensity, inventory turnover rates, and broader one- or two-digit NAIC classifications. The findings from this study will shed light on which industries might merit more detailed industry-level analysis that incorporates a more complete VAR model of industry output, prices, costs, and economic conditions.

Track 11: Artificial Intelligence and Machine Learning

Room: WC S204D (2:00 pm - 3:20 pm)
Moderator:

11.1 Leveraging Generative AI as a Socio-Technical Mediator in Global Project Communication and Conflict Management

Authors:
Srikanth Srinivasa *(Northwood University, USA & Harvard Business Analytics Program)*
Itauma Itauma *(Northwood University)*

Dynamic pricing strategies have been adopted extensively in many large-scale online platforms (such as e-commerce). They integrate Large Language Models (LLMs) to augment modeling and reasoning during pricing decisions. With the rapid popularity of LLMs, pricing frameworks are fast changing - models and components are frequently replaced or upgraded.

Although there is previous work that explores the use of LLMs in pricing models and strategy, a systematic end-to-end, open-source, data-driven framework is currently unavailable. Indeed, such frameworks are likely to exist in the industry - particularly for pricing tasks - but they are typically proprietary, complex, and heavily personalized, which limits their reproducibility and reduces their value for open-source research and development.

Our work has two objectives. First, we provide a simplified and replicable framework that serves as a paradigm for LLM-assisted pricing. Towards this end, we first construct multimodal representations of items to be priced, use graph-based relational learning to study similarity between them, and build neural models of item representation, use LLMs for accurate price baselines, and fine-tune them based on dynamic market conditions. Second, we present empirical results on publicly available datasets to compare the contribution of LLMs on the final pricing strategy.

11.2 A Framework for Adaptive Personalized AI Agents Using Experiential Learning Theory

Author: Eric Curley *(Kent State University)*

Personalized Large Language Model (LLM) conversational agents are used in a variety of fields and display many nuanced implementations, but they often struggle with maintaining their prescribed

persona and adapting to new information. By leveraging the complex language processing available from LLM's I propose a technique to enhance the persona of a conversational agent using Experiential Learning Theory as a theoretical foundation. The key feature of this process is to use a separate LLM agent to process the conversation and identify any important information that would be useful in a persona. The revised persona is fed back to the conversational agent thereby integrating the changes into itself. A simple case study is presented where the AI agent that was prompted to revise its persona did so effectively suggesting that the framework for adaptive AIs is possible. Through this paper my goal is to present a potential framework for getting more personalized results from AI agents, the provided framework serves as a starting point for future research on AI personalization and persona refinement.

11.3 AI-Driven Transformation in Ethiopia: Strategic Roadmaps, Sectoral Innovation, and Systemic Challenges

Authors:
Engida Admassu *(Jimma University)*
Dawit Demissie *(Fordham University)*

Now a day Ethiopia is shifting its source of income from highly dependent of agricultural product policy to diverse economy source. From those economy policies Digital Ethiopia 2030 plan Artificial Intelligence is part of the country's economic policy. To achieve this plan Ethiopia is highly engaged on integrating AI into national policy frameworks, launched Medemer AI university in Addis Ababa in 2026 which is first AI university from entire continent which can play a great role for creating local experts and researchers, precision agriculture which can advise farmers (national main source of income) and integrating AI on healthcare for data driven resource allocation. In addition to this, the study focuses for the growth of robotics for producing drones for agricultural better productivity and national investigation. However, there some challenges to fully implement in developing country like Ethiopia, including lack of local data centers, skilled man powers and low digital literacy in rural areas. We believe that while setting up research labs and hosting continental AI conferences can be on solution to create professional experts on the area. But digital divide can be a hazard to inclusive growth. This paper concludes that Ethiopia's AI mission will succeed only if the gap between high-level policy and public integration is bridged and suggests a centric framework to ensure sustainable development, in the emerging digital economy.

11.4 Organizational Metamorphosis: When Artificial Intelligence Transforms Companies into New Economic Life Forms

Author: Allan Glass *(Endicott College)*

Traditional theories of organizational change fall short in explaining how artificial intelligence (AI) transforms organizations. This grounded theory study, based on interviews with 34 organizational leaders, identifies a novel phenomenon: organizational metamorphosis - the irreversible transformation of organizations into fundamentally new entities through deep integration with AI as a cognitive partner.

The metamorphosis process unfolds in three phases. Individual Awakening occurs when leaders experience powerful interactions with AI, prompting a rapid shift from skepticism to advocacy. Once a critical mass of leaders undergo this shift, it initiates Organizational Restructuring, characterized by reimagined work design, boundary dissolution, and altered temporal rhythms. These changes create the conditions for Emergent Evolution, in which organizations develop human-AI symbiosis and new capabilities that surpass the capacities of either party alone.

The study introduces the concept of synthetic dynamic capabilities - capabilities that are instantly scalable, perfectly replicable, and continuously evolvable without traditional resource constraints. This challenges core assumptions in strategic management regarding resource scarcity and competitive advantage. The research also identifies AI-intensified paradoxes that organizations must embrace to sustain ongoing transformation.
By theorizing organizational metamorphosis, this study offers new insights into human-AI hybrid entities, reconceptualizes sources of competitive advantage, and provides practical guidance for leaders navigating deep AI integration.

Track 12: Emerging Scholars III

Room: WC G103B (2:00 pm - 3:20 pm)
Moderator:

12.1 Visualizing Education and Career Success: Interactive Tableau Analysis of Academic Performance, Early Intervention, and Gender Equity

Authors:
Kaia Eder *(Stonehill College)*
Gwen Banville *(Stonehill College)*
Brian Ronan *(Stonehill College)*
Ali Mohammed Bazarah *(Stonehill College)*

This study investigates the multifaceted relationship between educational background, early interventions, and long-term career success using the "Education and Career Success" dataset. Despite the traditional assumption that high academic performance guarantees professional advancement, raw data often obscures the roles of soft skills, supplemental experiences, and demographic disparities. Utilizing Tableau, three interactive dashboards were developed: Early Intervention, Career Success Profile, and Gender Equity, to transform complex data into actionable insights. This introduces a multi-factor "Combined Risk Score" to identify vulnerable students and quantified the "Career Booster" effect of internships and certifications. Our project reveals that while a higher GPA correlates significantly with starting salaries, specifically in STEM fields, real-world experience often outweighs academic metrics alone. For instance, students with three internships earned 15% more than those with two. Furthermore, the analysis exposes persistent systemic barriers, showing that women experience slower promotion tracks and lower senior-level representation despite comparable academic achievement. This research provides a dashboard that can provide educators to implement targeted support and for policymakers to address workforce inequities through data-driven transparency.

12.2 Fashion Retail Analytics: An Innovative Statistical Investigation of Customer Behavior and Seasonal Sales Patterns

Authors:
Hana Alaghband *(Alfred University)*
Jeshika Sharma *(Alfred University)*

This study analyzes fashion retail data over a 24-month period (2022-2023), drawing on 3,400 customer transactions across more than 60 product categories. Instead of looking only at revenue, as many retail studies do, we use a broader statistical approach that includes correlation analysis, probability modeling, regression, and ANOVA. This allows us to explore how customer satisfaction (measured through review ratings), seasonal trends, and purchasing behavior interact with one another.

Our results show a small but statistically significant positive relationship between customer satisfaction and spending ($r = 0.025$, $p < 0.001$), notable seasonal differences in sales volume ($F = 2.18$, $p < 0.05$), and that highly satisfied customers are about 1.15 times more likely to spend at higher levels. Although the regression model explains only about 0.2% of the variation in how much customers spend, the findings show just how complex and multifaceted consumer behavior can be. Overall, the insights from this analysis can help fashion retailers make better decisions about inventory planning, targeted marketing, and improving customer experience throughout seasonal cycles.

12.3 Mapping the AI Job Market for Recent College Graduates: A Tableau-Based Analysis of Salaries, Roles, and Company Size

Authors:
Emily H Green *(Stonehill College)*
Kent Q Duong *(Stonehill College)*
Jake M Flounders *(Stonehill College)*
Chelsea Mukuria *(Stonehill College)*
Adam J Prespare *(Stonehill College)*
Ali Mohammed Bazarah *(Stonehill College)*

The rapid expansion of artificial intelligence (AI) and machine learning (ML) is reshaping the labor market, creating both opportunities and uncertainty for recent college graduates. As entry-level candidates navigate a competitive and fragmented job search environment, they often lack clear, data-driven guidance on which AI roles offer the strongest compensation and long-term potential. This study addresses that gap by using a Tableau-based dashboard to analyze AI/ML salary data from 2020 - 2025, sourced from Kaggle and aijobs.com, with a focus on the United States. The analysis examines three core questions: Which entry-level positions offer the highest average salary? Which AI/ML job categories command the highest overall compensation? Does company size significantly impact salary levels? Job titles were standardized into role categories (e.g., Engineer, Scientist, Architect, Analyst, Lead/Manager) to enable meaningful comparisons across experience levels and employer size. Findings indicate that entry-level Engineer and Scientist roles offer the strongest salary potential, with several positions exceeding $150,000. Across all experience levels, Engineer and Architect roles demonstrate the highest average compensation and greatest job diversity. Company size generally correlates positively with salary, though this relationship varies by role and is not uniformly linear. The resulting Tableau dashboard provides an interactive decision-support tool that helps graduates identify high-growth roles, evaluate salary trends, and strategically align their skills with labor market demand.

12.4 Price Informativeness in Prediction Markets

Author: Jaeryoung Lee *(State University of New York at Fredonia)*

Ever since Hayek argued that prices aggregate dispersed information in his seminal essay “The Use of Knowledge in Society,” price informativeness has remained a central topic in financial economics. More recently, event-based derivative markets (such as Kalshi) have grown in prominence, offering a setting in which prices reflect beliefs about discrete real-world outcomes. In this paper, I apply the framework of Dávila and Parlatore (2025), which links equilibrium price movements to the precision of the information revealed through trading, to recover absolute and relative price informativeness from transaction data. Operationally, I use their identification logic that decomposes observed price variation into an information component and a residual component attributable to non-informational trading noise, allowing the implied precision of the price signal about the underlying payoff innovation to be estimated. I assemble the dataset by collecting and processing trade-level records via the Kalshi API using Python. Using the trade data to create trade-volume weighted synthetic prices, I

estimate informativeness measures in daily oil price prediction markets.

Concurrent Sessions-IV (Friday – 9:30am) Tracks 12-15

Track 13: Artificial Intelligence in Business

Room: WC S204A (9:30 am - 10:50 am)
Moderator: Linda Hall *(State University of New York at Fredonia)*

13.1 A Multimodal Graph-Based Framework for Large Language Model-Assisted Dynamic Pricing

Authors:
Jin Dai *(State University of New York at Buffalo)*
Haimonti Dutta *(State University of New York, Buffalo)*

Dynamic pricing strategies have been adopted extensively in many large-scale online platforms (such as e-commerce). They integrate Large Language Models (LLMs) to augment modeling and reasoning during pricing decisions. With the rapid popularity of LLMs, pricing frameworks are fast changing - models and components are frequently replaced or upgraded.

Although there is previous work that explores the use of LLMs in pricing models and strategy, a systematic end-to-end, open-source, data-driven framework is currently unavailable. Indeed, such frameworks are likely to exist in the industry - particularly for pricing tasks - but they are typically proprietary, complex, and heavily personalized, which limits their reproducibility and reduces their value for open-source research and development.

Our work has two objectives. First, we provide a simplified and replicable framework that serves as a paradigm for LLM-assisted pricing. Towards this end, we first construct multimodal representations of items to be priced, use graph-based relational learning to study similarity between them, and build neural models of item representation, use LLMs for accurate price baselines, and fine-tune them based on dynamic market conditions. Second, we present empirical results on publicly available datasets to compare the contribution of LLMs on the final pricing strategy.

13.2 Explainable AI for Identifying News Features Associated with Stock Movements

Authors:
Ziqian Song *(University of Scranton)*
Da-Wei Wei *(University of Scranton)*

In this paper, we leverage Explainable AI (XAI) techniques to enhance the interpretability of deep learning-based stock prediction, addressing the growing demand for transparency in AI-driven financial decision-making. We demonstrate that the language used in financial news articles possesses strong predictive power regarding stock movements. By identifying key features associated with firm performance during corporate events—such as predictive words and phrases—we improve the explainability of our model's predictions. To achieve this, we apply the Layer-wise Relevance Propagation (LRP) algorithm to our hybrid model, computing relevance scores that quantify the contributions of textual and numerical features to stock movement forecasts. Our findings underscore the potential of explainable deep learning techniques in financial forecasting, providing more transparent and actionable insights for investors and market participants.

13.3 Anomaly Detection in Cyber Threat Intelligence

Authors:
Robert G Cutlip *(Fairmont State University)*
Rebecca Giorcelli *(Fairmont State University)*
Gary Edwards *(Fairmont State University)*
Mojo Chisler *(Fairmontstate.edu)*
Bryant Walker *(Fairmont State University)*

With the growing complexity in cyberattacks, this research sought to evaluate the performance and suitability of different anomaly detection algorithms to prevent or reduce cybersecurity threats. Cyber Threat Intelligence (CTI) is an important and evolving area in cybersecurity and is used for its ability to detect cyber threats within different organizational settings. Based on a publicly accessible credit card fraud dataset of more than 284,000 transactions, anomaly detection methods, including Isolation Forest, K-Nearest Neighbors (KNN), and Autoencoder, were tested with the help of Python's PyOD library. The study used data standardization, and each method was analyzed using precision, recall, and F1-score metrics. Results showed that the Autoencoder method performed significantly better compared to others, with F1-score of detection of fraudulent transactions being 0.49 compared to Isolation Forest (0.18) and KNN (0.08). The analysis showed the increasing accessibility and affordability of anomaly detection tools, which made robust cybersecurity achievable even by resource-constrained entities. The results highlight the importance of anomaly detection to strategic cybersecurity and call for its wider use to support more effective proactive defense capabilities.

13.4 Network Anomaly Detection and Optimization Using Transformer-Based Model and Deep Reinforcement Learning Agent

Authors:
Robert G Cutlip *(Fairmont State University)*
Matthias Jarso *(Fairmont State University and Telecom Sud Paris)*

Modern networks face persistent challenges from anomalies such as DDoS attacks, backdoors, reconnaissance, and performance bottlenecks, which threaten reliability and security. Traditional detection approaches—statistical thresholds, clustering, and signature-based intrusion detection—often fail to generalize under evolving traffic behaviors. Machine learning methods, from Isolation Forests to CNNs and LSTMs, have improved detection, yet remain limited by weak temporal modeling or sequential inefficiencies. Recent advances in Transformers offer a promising alternative.

This research investigates a Transformer-based framework for network anomaly detection and optimization, integrating supervised learning on labeled datasets (UNSW-NB15 and a second labeled dataset with eight attack categories) with unsupervised validation on real-world MAWI traffic traces. Unlike prior studies focused solely on anomaly detection, the proposed system extends to decision-making by coupling detection outputs with a Proximal Policy Optimization (PPO)-based deep reinforcement learning agent, enabling adaptive responses such as throttling, rerouting, or blocking malicious flows. This aims to provide both accurate anomaly identification and actionable network control, contributing to the transition from passive monitoring toward proactive, intelligent management. Baseline models including Isolation Forest, kNN, DBSCAN, One-Class SVM, and ARIMA will serve as comparisons.

The results confirm that Transformer-based architectures outperform traditional baselines by capturing temporal and contextual dependencies in network flows. This advantage was evident in both binary anomaly detection and multi-class attack classification. In summary, this work shows that combining deep learning with reinforcement learning offers a promising path toward intelligent and adaptive network defense.

Track 14: Financial Insights III

Room: WC S204B(9:30 am - 10:50 am)
Moderator: Linda Hall *(State University of New York at Fredonia)*

14.1 To the Moon and Back: The Impact of the Internet's Most Notorious Altcoin

Author: Alan Ronald Chernoff *(The College of New Jersey)*

The rapid expansion of digital assets has reshaped global financial markets, there remains uncertainty with regards to how volatilities of speculative cryptocurrencies behave relative to major digital assets. Prior work has documented volatility patterns in large cryptocurrencies such as Bitcoin and Ethereum, less attention has been given to volatility transmission in smaller, culturally driven coins. In this paper, we examine Dogecoin, a cryptocurrency infamously created in 2013 as a parody of Bitcoin but which nonetheless reached a market capitalization of nearly $90 billion, as a case study for understanding return dynamics and volatility spillovers in secondary digital asset markets. Using inter-day data from coinmetrics.io and intra-day data from Coinbase's API, we assess the relationship with Dogecoin returns and volatility to that of more widely regarded digital assets, such as Bitcoin and Ethereum. Our results show that although Dogecoin exhibits positive correlation with Bitcoin and Ethereum returns, it displays a counter-intuitive negative relationship with Bitcoin's intra-day volatility. These findings suggest that during periods of stress in major cryptocurrencies, investors may reallocate away from speculative memecoins toward more established assets. Overall, this study contributes to the literature on volatility spillovers in digital asset markets and highlights the distinct risk dynamics present in smaller speculative cryptocurrencies.

14.2 Developer Sentiment and Commercial Real Estate Development

Authors:
Bo Meng *(Sacred Heart University)*
Michael Gorman *(Sacred Heart University)*
Russell Porter *(Sacred Heart University)*

This study investigates the ability of developer sentiment to predict commercial construction activities in the United States. Wang and Hui (2017) build a theoretical model and show that sentiment plays an important role in the development of residential projects. They show that the expected waiting time to invest exhibits a U-shape pattern against sentiment and that the turning point of the U-shape pattern is more likely to appear earlier in projects with longer development periods. We thus hypothesize that, during periods of high developer sentiment, commercial real estate activities are more active through increases in building permits, and that there is a U-shape relationship between developer sentiment and the expected waiting time. Finally, we demonstrate that the optimal development density declines when developer sentiment intensifies. Our study contributes to research on behavioral finance and housing construction studies.

14.3 Stochastic Cardinality Approach to Performance-Sparsity Trade-off in High-Dimensions, with Applications to Portfolio Optimization

Authors:
Chanaka Edirisinghe *(Rensselaer Polytechnic Institute)*
Jaehwan Jeong *(Radford University)*

Modern data processing involves optimization models of thousands of variables, but a sparse solution consisting of a few nonzero components is sought to improve predictive power, a class of problems spanning diverse cross-disciplinary applications, yet computationally difficult in high dimensions.

This paper is based on the premise that underlying sparse structural relationships between inputs and outputs are unknown a priori, and thus, one must consider the potential trade-off implied on system performance when cardinality is specified exogenously.

We propose a new modeling paradigm under data uncertainty to determine an optimal trade-off between system performance and violation of (specified) cardinality. Using a penalty method for cardinality violations, a stage-1 problem optimizes the trade-off of the risks, while a stage-2 subproblem induces sparsity by controlling norm-1 and norm-2 parametrically, termed the SCOUP model. SCOUP is trained under historical data to determine optimally-hedged norm policy for implementing decisions for the future under forecasting.

The motivating application for the approach is sparse portfolio selection under asset return parameter uncertainty. With large constituent asset sets, but having relatively small data samples, the out-of-sample performance of SCOUP-generated portfolios not only produces superior risk-adjusted returns with significantly less trading costs, but also more efficient computationally, relative to using standard combinatorial optimization methods.

14.4 A Mixed-Effects Econometric Approach to Financial Performance Evaluation in Emerging-Market Multinational Enterprises

Authors:
Carlos A. Diaz Restrepo *(Felician University)*
Marilu Marcillo *(Felician University)*

This study establishes a comprehensive empirical framework to evaluate the financial performance of multinational enterprises (MNEs) involved in outward foreign direct investment from emerging economies. The proposed approach employs a mixed-effects econometric model incorporating both fixed and random effects to examine the influence of firm-level financial metrics such as Earnings Before Interest and Taxes (EBIT), Net Margin, and Total Assets, alongside macroeconomic variables like Purchasing Power Parity (PPP) and macroeconomic competitiveness, on a composite financial performance index designed to capture multidimensional firm outcomes.

The empirical analysis employs a balanced panel of 259 multinational firms from Colombia, Mexico, and Chile, covering a decade and including diverse sectors such as manufacturing, energy, mining, and financial services. The mixed modeling framework facilitates the detection of unobserved heterogeneity among enterprises while accounting for macroeconomic variables from the home nation.

The findings indicate that operational efficiency and the robustness of capital structure are two critical determinants influencing long-term financial performance in global markets. The macroeconomic environment of the country significantly influences the growth of multinational corporations.

This study combines firm-level financial analytics with macroeconomic contextual variables, offering a systematic and empirically substantiated framework for assessing financial performance in emerging-market multinational enterprises (MNEs), thus producing practical insights for investors, policymakers, and corporate decision-makers.

Track 15: Operations and Supply Chain

Room: WC S204D (9:30 am - 10:50 am)
Moderator: Linda Hall *(State University of New York at Fredonia)*

15.1 When and Where Have Supply Chain Pressures Impacted Capacity Utilization?

Authors:
David Yerger *(Indiana University of Pennsylvania)*

Christopher Rafferty *(Indiana University of Pennsylvania)*
Manvinder Singh *(Indiana University of Pennsylvania)*

This research contributes to the literature examining the impact of supply chain pressures on industrial usage rates. We test for causality impacts from supply chain pressures to a measure of spare production capacity at a detailed industry level. Supply chain pressure is measured using the Global Supply Chain Pressure Index (GSCPI) introduced by researchers at the New York Federal Reserve in 2022. The spare capacity measure is built using the same definition as October 2025 research from the New York Federal Reserve. Spare capacity in period "t" is defined as an industry's seasonally adjusted capacity utilization rate in period "t" compared to its peak rate observed over the prior ten years to "t".

The analysis uses monthly data from January 2014 to December 2024. This avoids the prolonged recovery from the 2008–09 recession and potential tariff uncertainty shocks in 2025. Capacity utilization rates are available for approximately 75 detailed NAIC industries. Each industry is analyzed separately as follows. Variables are tested for stationarity and, if necessary, differences are taken to ensure stationary data. Then, Granger-causality testing is done to see if GSCPI Granger-causes the spare capacity. Causality findings across industries are examined for discernible patterns between findings of significant causality and industry characteristics. To see how sensitive these causality results are to the COVID disruptions, the causality testing is repeated on split samples: January 2014 to December 2018 and January 2019 to December 2024.

15.2 An Analysis of Index Performance Measures with Application to Supply Chain Analytics

Authors:
Alfred L. Guiffrida *(Kent State University)*
Bassel Kassem *(Niagara University)*
Ionut Vlad *(Indiana University of Pennsylvania)*

Effective supply chain management is critical for building, sustaining, and advancing competitive advantage. Performance measurement is vital for optimizing internal value-adding processes within the supply chain and benchmarking against industry competitors. This paper examines the use of index measures as a supply chain analytics tool for evaluating performance. We analyze 14 index measures and illustrate their application within the Triple-A supply chain performance framework. This paper contributes to supply chain analytics and performance measurement across multiple dimensions. First, it provides a comprehensive synthesis of key literature review studies on supply chain performance measurement. This single-source consolidation of supply chain performance frameworks and metrics may prove useful to academicians engaged in research programs and to practitioners seeking to expand their supply chain performance management toolkits. Second, it highlights the value of index measures in supply chain analytics, demonstrating their integration into strategic and operational decision-making.

15.3 On the Necessity of Deseasonalization in Trend Estimation

Authors:
Mustafa Canbolat *(State University of New York College at Brockport)*
Kyongsei Sohn *(SUNY Brockport)*

It is commonly assumed that time series exhibiting both seasonality and trend require deseasonalization prior to trend estimation. This study reexamines this long-standing convention using 41 monthly seasonal series from the 1982 M-Competition. We first provide a formal analysis of linear-trend models fitted to both raw and deseasonalized data. We show that, under a standard multiplicative seasonal process and with known seasonal indices, both approaches yield theoretically

unbiased estimates of the underlying trend parameters. We then empirically evaluate linear-trend regression, Holt's method (ETS), Neural Networks (NN), and XGBoost. The statistical tests show that deseasonalization provides no significant benefit for any model class across both the training and validation periods, indicating that preprocessing using deseasonalization may not be necessary for effective seasonal forecasting.

Track 16: Business Analytics and Decision-Making

Room: WC G103B (9:30 am - 10:50 am)
Moderator: Linda Hall *(State University of New York at Fredonia)*

16.1 The Paradox of Hype in Entrepreneurship: A Mixed Method Content Analysis of TikTok Videos from Two Industries

Authors:
Gokul Bhandari *(University of Windsor)*
Kent Walker *(University of Windsor)*
Francine Schlosser *(University of Windsor)*

In this study, we conduct the content analysis of 94 TikTok videos discussing ChatGPT and Real Estate sector using a mixed method approach with the following objectives: (i) cross-industry comparison of hype, (ii) understanding hype through TikTok, and (iii) identification of salient attributes that make TikTok a powerful tool for hype creation. We have completed data collection and are in the stage of analyzing them.

Data Collection:
Using the keywords ChatGPT and Real Estate, we have identified 90 relevant TikTok videos and collected data associated with them such as date of the videos, number of views, number of likes, number of comments, number of likes, and number of shares. Each video has been rated by two research assistants (raters) for their cognitive, affective, and behavioral components based on seven Likert-scaled questions for each component. Hype was assessed with four binary (yes/no) questions. The raters were also asked to provide their comments for each video. We are conducting content analysis of these videos following mixed method approach.

16.2 Who is Pursuing Side Gigs? Insights from the 2021 NFCS

Author: Jean Ellefson *(Alfred University)*

The use of side gigs or side hustles can shape how households supplement income, manage financial risk, and explore entrepreneurial opportunities. Using the 2021 National Financial Capability Study (NFCS), this study examines who engages in side gigs and which financial and demographic factors predict participation. Logistic regression and descriptive analyses explore variables including income, education, employment status, financial literacy, rural/urban index, and perceived financial security. These findings provide insights into household financial behavior and identify potential micro-entrepreneurial pathways, particularly in rural regions. The study provides a foundation for future research into the motivations behind side-gig participation and its role in experiential entrepreneurship, particularly in rural regions. This research demonstrates how large-scale financial datasets can inform analytics-driven policy, education, and entrepreneurship initiatives.

16.3 Dangers of Business Analytics

Author: Santiago Umaschi *(Wentworth Institute of Technology)*

In an era of big data and advanced analytics, businesses increasingly rely on data-driven insights to guide decisions. Business analytics tools can uncover patterns and improve efficiency, offering a competitive edge. However, many experts warn that over-reliance on analytics carries significant risks. When organizations treat data as infallible and allow algorithms to overshadow human judgment, they can fall victim to strategic blind spots, flawed decisions, and organizational paralysis. The illusion of certainty provided by analytics may lead to a false sense of security, while an excessive focus on internal data can create tunnel vision. This report examines the key dangers of over-relying on business analytics - from analysis paralysis to missing the bigger picture - and argues for a balanced approach that combines quantitative data with qualitative insight.

Track 17: Emerging Scholars IV

Room: WC G103C (9:30 am - 10:50 am)
Moderator: Linda Hall *(State University of New York at Fredonia)*

17.1 Autonomous Vulnerability Detection Using Agentic Workflows and MCP-Based Security Scanners

Author: Saumya Ranjan Padhi *(Northwood University & DevOS Graduate School)*

This paper presents a lightweight, autonomous framework for vulnerability detection that integrates agentic AI workflows with the Model Context Protocol (MCP) to create a scalable, interoperable, and continuously adaptive security-scanning ecosystem. Modern enterprise environments operate across heterogeneous infrastructures-cloud, on-premises, containerised workloads, and distributed edge systems-making traditional signature-based or manually orchestrated vulnerability assessments increasingly insufficient. The proposed approach reframes vulnerability detection as an agent-driven, tool-augmented reasoning process, where large language models coordinate multiple specialised scanners, metadata extractors, and remediation engines through MCP's standardised JSON-RPC interface.

The framework employs a multi-agent pipeline comprising a Reconnaissance Agent, a Vulnerability Analysis Agent, and a Remediation Intelligence Agent. These agents collaborate to autonomously enumerate assets, invoke MCP-compatible scanners, interpret findings, correlate weaknesses across systems, and generate actionable remediation guidance. By grounding each step in tool-verified outputs rather than model-only inference, the system reduces hallucinations, improves detection precision, and ensures auditability-an essential requirement for enterprise security operations. The architecture further supports incremental scanning, context-aware prioritisation, and cross-platform interoperability, enabling organisations to unify disparate security tools under a single agentic workflow.

Conceptually, the results indicate strong potential for reducing manual triage workloads, accelerating vulnerability discovery cycles, and enhancing the consistency of security assessments across diverse environments. The integration of agentic reasoning with MCP-based tool invocation positions this framework as a practical pathway toward autonomous security operations, bridging the gap between traditional vulnerability management and next-generation AI-driven cyber-defence. This work lays the foundation for future empirical evaluation and real-world deployment in enterprise and edge-security contexts.

17.2 Ethical and Governance Risks in MCP-Enabled Agentic AI Systems: A Meta-Analysis

Author: Saumya Ranjan Padhi *(Northwood University & DevOS Graduate School)*

Agentic AI systems capable of autonomous tool invocation are rapidly entering enterprise workflows, with the Model Context Protocol (MCP) emerging as a standardized mechanism for structured context exchange and tool interoperability. While MCP promises safer and more modular agent design, its ethical and governance implications remain underexamined. This paper presents a meta-analysis of 62 peer-reviewed studies, AI incident databases, and global governance frameworks including the NIST AI Risk Management Framework (NIST, 2023), ISO/IEC 42001 (ISO, 2023), OECD AI Principles (2019), and the EU AI Act (European Commission, 2024).

Findings reveal five recurring risk domains: autonomy-induced accountability gaps, hallucination-driven tool misuse, privacy leakage through context sharing, inadequate auditability, and security escalation risks. Specifically, the research identifies that standardized protocols can inadvertently facilitate "unauthorized tool chaining," where agents combine low-risk permissions to execute high-risk actions without explicit human consent. We synthesize these insights into a novel MCP-specific ethical governance model that integrates "security-by-design" principles with real-time intent monitoring. This framework emphasizes the transition from static API permissions to dynamic, context-aware guardrails that align with international safety standards. By bridging the gap between protocol-level interoperability and institutional oversight, this study provides a foundational blueprint for developers and policymakers. The findings highlight urgent research needs for establishing standardized audit schemas and formal verification of autonomous reasoning loops to ensure the responsible deployment of MCP-enabled agentic systems in sensitive enterprise environments.

17.3 Ontology-Guided Neural Learning for Low-Resource Policy Text Classification: A Hybrid Feature Fusion Approach

Author: Admas Kero *(Jimma University, Ethiopia)*

To limited annotated data and the complexity of domain-specific language. Purely data-driven neural approaches often struggle to generalize under such constraints, highlighting the need for methods that incorporate structured domain knowledge.

Methods: This study proposes an ontology-guided neural learning framework that integrates contextual embeddings from multilingual transformer models with semantic features derived from a domain-specific policy ontology. Neural representations are refined using bidirectional LSTM and convolutional layers, while ontology-based features capture conceptual, relational, and hierarchical semantics. A dynamic gated attention mechanism is employed to fuse neural and symbolic representations, and ontology-guided regularization and data augmentation are introduced to enhance learning in low-resource scenarios.

Results: Experiments conducted on a multilingual Ethiopian policy dataset demonstrate that the proposed hybrid approach outperforms strong baselines, including CNN, BiLSTM, and transformer models. The best-performing variant achieves up to 0.92 accuracy and 0.91 F1-score, with particularly significant gains in low-resource conditions. The model shows

improved robustness when training data is scarce and provides enhanced interpretability through explicit ontology grounding.

Conclusions: The results confirm that combining neural and symbolic representations effectively addresses the limitations of low-resource policy text classification. The proposed approach improves both performance and interpretability, offering a practical and scalable solution for real-world policy analysis and advancing research in hybrid neuro-symbolic AI systems.

Undergraduate Poster Session in Analytics

MPR Ring, WC
Judging time: 11:00am to 12:20pm, Thursday, May 8th, 2025

Poster 1: AI-Enhanced Supply Chain Optimization
Author: Connor Burkestone *(State University of New York at Fredonia)*
Mentor: Dr. Reneta Barneva *(State University of New York at Fredonia)*

This project explores how artificial intelligence (AI) can improve inventory management and logistics within supply chains. The central research question investigates how AI tools can reduce stockouts, cut transportation costs, and boost overall efficiency. To address this, the study explores simulation methods, focusing on demand that customers want in the future, and route optimization algorithms. Demand forecasting simulations analyze historical data to predict future inventory needs accurately, letting them manage stock better. Route optimization algorithms help determine the most efficient delivery paths, reducing transportation expenses and delivery times.

The results from these simulations show significant benefits, fewer stockouts which will improve customer satisfaction, lower transportation costs due to optimized delivery routes, and increased efficiency in supply chain operations. These findings suggest that AI can transform traditional supply chain practices by making them more responsive, cost-effective, and sustainable.

The motivation behind this project comes from the growing complexity of global supply chains and the need for smarter management solutions. As supply chains become more connected, AI offers powerful tools to handle large data sets and optimize process efficiency. Our findings highlight the importance of implementing artificial intelligence techniques to remain competitive in a constant changing market.

Looking at this work the audience can expect to see a clear demonstration of AI's potential use for real-world challenges, showing the practical benefits of technological innovation in supply chain management. Ultimately, this project showcases AI's ability to make supply chains smarter, faster, and more reliable.

Poster 2. Predictive Analytics for Sales Forecasting
Student: Eustathios Soultanidis (*State University of New York at Fredonia*)
Mentor: Dr. Reneta Barneva (*State University of New York at Fredonia*)

This project investigates whether modern machine-learning approaches can outperform traditional forecasting techniques in predicting sales trends. The research goal is to determine which methods provide greater accuracy and reliability across different conditions, including large datasets and strong seasonal patterns. We review the literature and use historical sales data with forecasting models to be evaluated on their predictive performance. The results suggest that machine-learning models,

particularly those capable of capturing complex relationships, generate more accurate forecasts than conventional statistical approaches. However, simpler non-machine-learning methods may still perform effectively when datasets are small or patterns are straightforward. We conclude that while advanced machine-learning techniques offer clear advantages in many real-world scenarios, the optimal forecasting approach depends on data complexity, business needs, and the balance between interpretability and predictive power.

Poster 3. Artificial Intelligence in Human Resource Recruitment
Student: Sam Evans (*State University of New York at Fredonia*)
Mentor: Dr. Reneta Barneva (*State University of New York at Fredonia*)

This project aims to explore how artificial intelligence affects human resource recruitment activities and its overall efficiency. This work evaluates its effectiveness and applicability. As a matter of interest and inquiry for this study, the key research question is: How does the integration of AI driven tools affect efficiency and fairness in recruitment and its overall effect on decision making? There has been a huge uptake of artificial intelligence tools by many organizations to assist with recruitment activities. The study is carried out using a combination of a review of recent academic publications on the topic and case studies of organizations that have adopted AI tools in the hiring process. Additionally, the study is based on the analysis of accessible data on the effectiveness of hiring, that is, the speed of the hiring process, the metrics of the hiring period known as time to fill, and the reduction of biases through the process. The study reveals that the use of AI in the hiring process is efficient in terms of administrative tasks because the process is streamlined by the adoption of the technique. The project concludes that although AI demonstrates great potential in enhancing consistency and productivity within recruitment procedures, its effective application is vital to avoid ethical pitfalls. The value of this research lies in its contribution to the current discourse about the future of work by focusing upon the dynamics and ethics associated with AI and HR recruitment.

Poster 4. Ethics of AI in Business Decision-Making
Student: Dylan McAfee (*State University of New York at Fredonia*)
Mentor: Dr. Reneta Barneva (*State University of New York at Fredonia*)

As artificial intelligence begins to be more common for businesses and companies to use, they have begun relying on algorithms to provide them with guidance in their decisions about hiring, marketing, and even daily operations. While AI can help improve efficiency and even reduce something as important as costs, it is also important to consider ethical concerns. This project looks into the question: How can businesses use AI in decision-making but still be able to hold standards like fairness, accountability and transparency. This project argues that businesses need to make sure they consider implementing oversight, human supervision, and monitoring the bias that AI may have and make sure it is run responsibly and sustainably. The research uses a qualitative approach that looks into recent case studies and discussions about how AI is being used in business. By looking at examples of AI applications in recruitment, as well as financial services, and even customer analytics, the study highlights recurring ethical issues like bias in the algorithm, as well as a lack of transparency and even data privacy concerns which creates unclear lines of responsibility between humans and automated systems. In many cases, biased data has eventually led to discriminatory and even reputational damage for people. Finding these things, it's obvious that ethical challenges often stem not just from the

technology itself, but from how one designs, implements, and monitors it. The project shows that making sure AI is ethical results in a moral responsibility and a strategic necessity.

Poster 5. Designing Effective Business Dashboards: A Case Study from an Internship at Jaycon Systems
Student: Jack Meyer (*Alfred University*)
Mentor: Dr. Jean Ellefson (*Alfred University*)

In an increasingly data-driven world, organizations must present critical metrics clearly and concisely to enable timely, informed decision-making. This paper examines effective methods for creating and presenting visualizations through the development of dashboards during an internship at Jaycon Systems. Design considerations including graph and colour selection, spatial layout, and scaling are critical for drawing attention to specific points and telling a story. Dashboards were developed using Frappe Insights, a business intelligence platform integrated with the organization's ERP system, and were implemented across multiple areas, including HR, Sales & Marketing, Project Managers, and additional contexts. The findings emphasize the critical role of iterative feedback in mitigating misinterpretation and enhancing communicative clarity in dashboard design.

Poster 6. A Qualitative Study of University Student Experiences Regarding the Impact of Artificial Intelligence on Coding Coursework
Students: Andrew Maguire; Jack Meyer (*Alfred University*)
Mentor: Dr. Yavuz Keceli (*Alfred University*)

The impact of generative artificial intelligence (AI) on coding and software development is an ongoing debate. As AI is changing how computer programs are created, its implications on college level coding and programming courses cannot be ignored by educators. Therefore, this study was conducted to assess the impact of artificial intelligence on coding coursework from the perspectives of university students. Throughout one semester, university students in a programming class were asked to complete several coding assignments individually, and several coding assignments using various generative AI tools. At the end of the semester, the students were asked to participate in a focus group study, comparing their manual coding output with code generated by AI, as well as sharing their perceptions of learning experiences. Based on the results, several recommendations were proposed for educators to improve their coding and programming courses to align with the evolving demands and the requirements of the job environment.

Poster 7. AI Chatbots and Customer Service Efficiency
Student: Jordan Stephens (*State University of New York at Fredonia*)
Mentor: Dr. Reneta Barneva (*State University of New York at Fredonia*)

Understanding the ways in which artificial intelligence can be both used and manipulated in a technologically advancing society is crucial to discerning how the implementation of machine learning in the banking industry can be useful in the detection of fraud. While artificial intelligence is something that has been programmed by human hand and uses a specific set of rules, machine learning, on the other hand, is a form of analytics which focuses primarily on the live analysis of data and consumer patterns in order to predict future behavior. It is an adaptive subset of artificial intelligence which attempts to recognize the patterns of individuals attempting to commit fraud, rather than just adhering

to traditional rule-based systems. This study examines how machine learning can be useful in several areas including transaction monitoring, anomaly detection, identity theft prevention, insurance claims verification and fraud case analysis. While machine learning can be a beneficial implementation, we also explore some of the drawbacks of this system. For example, machine learning can introduce new attack surfaces into banking systems, making it easier for malicious actors to break in. Furthermore, machine learning may be 'over-aware' of too many factors and can generate false positives, leading to the inefficiency of the system as a whole. The purpose of this research is to shed light on the innovation of machine learning and to digest the implications of this methodology in the banking industry.

Poster 8. Machine Learning Integration: A Fraud Detection Analysis
Student: Connor Schad (*State University of New York at Fredonia*)
Mentor: Dr. Reneta Barneva (*State University of New York at Fredonia*)

Understanding the ways in which artificial intelligence can be both used and manipulated in a technologically advancing society is crucial to discerning how the implementation of machine learning in the banking industry can be useful in the detection of fraud. While artificial intelligence is something that has been programmed by human hand and uses a specific set of rules, machine learning, on the other hand, is a form of analytics which focuses primarily on the live analysis of data and consumer patterns in order to predict future behavior. It is an adaptive subset of artificial intelligence which attempts to recognize the patterns of individuals attempting to commit fraud, rather than just adhering to traditional rule-based systems. This study examines how machine learning can be useful in several areas including transaction monitoring, anomaly detection, identity theft prevention, insurance claims verification and fraud case analysis. While machine learning can be a beneficial implementation, we also explore some of the drawbacks of this system. For example, machine learning can introduce new attack surfaces into banking systems, making it easier for malicious actors to break in. Furthermore, machine learning may be 'over-aware' of too many factors and can generate false positives, leading to the inefficiency of the system as a whole. The purpose of this research is to shed light on the innovation of machine learning and to digest the implications of this methodology in the banking industry.

Poster 9. Personalized Marketing Using Recommendation Systems
Student: Ava Cook (*State University of New York at Fredonia*)
Mentor: Dr. Reneta Barneva (*State University of New York at Fredonia*)

This project examines how personalized marketing uses recommendation systems to shape consumer experiences, asking: How effectively and ethically do these systems influence purchasing behavior? The goal is to understand the mechanisms behind algorithmic personalization and evaluate its implications for both businesses and consumers. The study relies on a review of current literature on recommender-system design, data-driven targeting, and user responses to personalized content. Through this analysis, expected results include identifying the key factors that make recommendations accurate, the types of data most commonly used, and the potential risks related to privacy, bias, and over-personalization. The project finds that while recommendation systems increase engagement and improve marketing efficiency, they also raise concerns about transparency and consumer autonomy. In conclusion, personalized marketing can be highly effective when implemented responsibly, with clear data practices and safeguards that maintain user trust and prevent algorithmic harm.

Poster 10. AI-Driven Dynamic Pricing Strategies
Student: Emily Solazzo (*State University of New York at Fredonia*)
Mentor: Dr. Reneta Barneva (*State University of New York at Fredonia*)

This project examines how AI driven dynamic pricing strategies influence market behavior, focusing on the question of whether these systems improve pricing efficiency and revenue prediction. The goal is to understand how AI adjusts prices in real time based on factors such as consumer demand, competition, willingness to pay, and industry trends. The methodology centers on reviewing existing literature on dynamic pricing, airline revenue management, and predictive modeling, with particular attention to how AI analyzes large datasets to forecast future market conditions. Expected results suggest that AI enables businesses - especially airlines with high fixed costs - to optimize pricing by anticipating demand fluctuations and competitor actions. These systems are likely to demonstrate improved accuracy in predicting when prices should rise or fall and when consumers are most likely to purchase. The project concludes that AI based dynamic pricing enhances revenue generation and demand forecasting, if models remain transparent, continuously updated, and aligned with consumer expectations.

Poster 11. The Impact of LinkedIn and Artificial Intelligence on Students' Employability
Student: Alina Zabihailo (*Alfred University*)
Mentor: Drs. Halil Zaim, Shelly Freyn, and Diana Maguire (*Alfred University*)

Graduate employability has become an increasing concern for university students and recent graduates as the job market grows more competitive and complex. Many students struggle to translate academic achievement into practical experience and employment opportunities. LinkedIn has emerged as a major platform for career development, enabling students to build professional portfolios, showcase achievements, and connect with employers. At the same time, artificial intelligence (AI) tools are transforming workforce preparation by supporting profile development, resume creation, and interview preparation. Despite widespread adoption, limited research examines how the combined use of LinkedIn and AI influences professional readiness, and post-graduation outcomes. This topic is particularly relevant given rising youth unemployment rates, which reached 5.8% among individuals aged 22-27 in March 2025, according to the Federal Reserve Bank of New York.
This study evaluates the role of LinkedIn engagement and AI-assisted career practices in supporting students' transition from higher education to employment. In addition to survey-based analysis, the research introduces a prototype AI-driven academic and career advising chatbot that provides program-specific employability guidance. The chatbot integrates institutional curriculum data, career pathways, and skill requirements to generate recommendations aligned with students' academic programs and career goals. Using quantitative surveys, chatbot interaction data, and employer perspectives, the research aims to identify strategies that improve career readiness and inform universities' integration of career development and AI literacy into curriculum.

Poster 12. Rethinking the World Rugby Ranking System
Student: Dmytro Solomianiuk (*Ashland University*)
Mentor: Paul Holmes (*Ashland University*)

The World Rugby Ranking system serves a dual role, providing instantaneous rankings and determining entries and seeding for international tournaments (including the quadrennial Rugby World Cup) since its implementation in 2003. While the current points-exchange model establishes a stable global hierarchy, its reliance on fixed mathematical constants may be limiting. We define a class of points-exchange systems including the current system, and by optimizing for various weightings of predictive power and parsimony, we examine the behavior of these models across a comprehensive dataset of international matches from 2003 to the present. We also compare performance to the popular Elo rating system and other alternatives, and consider whether the same ranking system is appropriate for both men and women.

Poster 13. Redefining Search Visibility: How AI is Reshaping Optimization Strategies
Student: Ty Kunzer-Borrelli (*Alfred State College*)
Mentor: Dr. Tamanna Kabir (*Alfred State College*)

Empirical evidence shows that traditional SEO continues to drive strong visibility. Yet an exponential growth in Artificial intelligence has unlocked new dimensions of exposure previously unattainable. This development exposes the necessity of incorporating hybrid optimization strategies. Which is especially imperative with the massive increase in zero-click research. These new strategies are pivotal for maintaining competitive positioning and visibility in the new AI-run digital domain.
This presentation examines the evolution of Search Engine Optimization with the introduction of Artificial Intelligence, by exploring the following research questions: 1) How has the integration of Artificial Intelligence enhanced traditional Search Engine Optimization (SEO) practices?, 2) how has it contributed to the development and emergence of specialized strategies such as Answer Engine Optimization (AEO), Generative Engine Optimization (GEO), and Cross-Engine Optimization (XEO) to achieve visibility across traditional search engines and AI-powered platforms? By analyzing recent developments in literature, case studies, and industry trends, this presentation will discuss the effects AEO, GEO, and XEO's have on brand discoverability, citation rates, and overall digital presence.

Poster 14. The Effect of Artificial Intelligence on the Audit Profession
Student: Alexander Caufield (*Alfred State College*)
Mentor: Not Listed

In the most recent access review survey results, users made suggestions for improvements for the access review process. There were 40 responses with comments suggesting improvements. 23 of these responses could be lumped into four categories that additional information for the users could help solve: group description needed, more information needed to make a choice, comparing other subordinate's accesses, and comparing accesses with previous reviews. This means that if there was a system to collect available data regarding the review and providing information from that data these problems could be removed. Implementing such a system could help managers feel less lost when conducting their reviews and become more confident in their designs by being more informed. Managers may experience apathy as they may want to simply select yes to all employees' access instead of reviewing the need for each access. If a manager could compare access with their other employees and use that as a guide if they should remove access. Further, an analytical model can give a suggestion on which specific members need access to items. This can help improve managers' ability to feel that they complete the review accurately. Managers will receive information on related users' access as they may not know all their employees' access needs. This system can use previous reviews'

data to provide extra context. A solution that achieved this would showcase an ability to listen and to respond to user needs decisively.

Poster 15. The Use of Analytical Metrics to Guide Managers Through an Access Review
Student: Caleb Raughley (*Alfred State College*)
Mentor: Dr. Jean Ellefson (*Alfred State College*)

In the most recent access review survey results, users made suggestions for improvements for the access review process. There were 40 responses with comments suggesting improvements. 23 of these responses could be lumped into four categories that additional information for the users could help solve: group description needed, more information needed to make a choice, comparing other subordinate's accesses, and comparing accesses with previous reviews. This means that if there was a system to collect available data regarding the review and providing information from that data these problems could be removed. Implementing such a system could help managers feel less lost when conducting their reviews and become more confident in their designs by being more informed. Managers may experience apathy as they may want to simply select yes to all employees' access instead of reviewing the need for each access. If a manager could compare access with their other employees and use that as a guide if they should remove access. Further, an analytical model can give a suggestion on which specific members need access to items. This can help improve managers' ability to feel that they complete the review accurately. Managers will receive information on related users' access as they may not know all their employees' access needs. This system can use previous reviews' data to provide extra context. A solution that achieved this would showcase an ability to listen and to respond to user needs decisively.

Poster 16. Enhancing Employee Performance Evaluation with Data Analytics
Student: Riley John Morbey (*State University of New York at Fredonia*)
Mentor: Not Listed (*State University of New York at Fredonia*)

This research analyzes the potential of data analytics to improve employee performance reviews, intending to promote accuracy, efficiency, and fairness in corporate assessments. Traditional evaluations generally rely on subjective judgments, which might bring bias and inconsistencies. This study analyzes the ways in which evidence-based human resource choices can be supported by quantitative data, predictive modeling, and visualization tools. We study the literature about performance metrics, including productivity measures, task completion rates, and peer evaluations. Patterns, trends, and key performance indicators connected with total employee effectiveness are studied and a comparison between data-driven procedures and conventional evaluation techniques is performed. The hypothesis is that incorporating data analytics into performance reviews will decrease subjectivity, identify opportunities for potential growth, and assist in making decisions about training and promotion.

Poster 17. AI-Driven Social Media Advertising Optimization
Student: Corey Casella (*State University of New York at Fredonia*)
Mentor: Dr. Reneta Barneva (*State University of New York at Fredonia*)

This project explores how artificial intelligence can optimize social media advertising by addressing the research question: How can AI enhance targeting, creativity, and decision making in digital

marketing? Using a literature review of current AI marketing research and industry analyses, the study examines how machine learning systems analyze large scale consumer data to improve ad relevance and return on investment. The review also considers historical parallels, noting that technological advances - like early office software - often increase workflow complexity rather than reduce effort. Expected results suggest that while AI improves targeting precision and campaign efficiency, it also introduces challenges such as content overload, creative homogenization, and algorithmic bias. The study shows that effective optimization requires blending AI generated insights with human creativity and ongoing metric monitoring. The conclusion emphasizes that marketers must treat AI as a tool for inspiration, supported by trained marketing data scientists who provide critical oversight in an evolving digital landscape.

Poster 18. Classic Vs Contemporary Advertising: Nintendo
Student: Jack Casper (*State University of New York at Fredonia*)
Mentor: Dr. Shazad Mohammed (*State University of New York at Fredonia*)

To analyze and critique the effectiveness of a major company or brand's advertising from (1) a classic (1970 to 1995) and (2) contemporary (1996 to present) time period. This is done in relation to the main industry competitor whose marketing material is compared and contrasted. We utilize applicable digital tools to create an original advertisement of the focal company/brand with callouts that articulate the evolution and explain the effective elements. Final results are summarized and presented in a bespoke visual manner. This is a multi-student project with variant advertising designs. Note that the advertising campaigns vary in subject and themes.

Poster 19. Machine Learning Benchmarking for Surface Roughness Prediction in Replicated Full-Factorial Turning Experiments
Student: Arjya Misra (*University of Massachusetts Amherst*)
Mentors: Drs. Ravindra Thamma; Gaurav Mittal; Anurag Sobti (*University of Massachusetts Amherst*)

This paper presents a comparative evaluation of four supervised machine learning models - Multiple linear regression (MLR), support vector regression (SVR), random forest (RF), and artificial neural network (ANN) - for predicting surface roughness, which is a critical attribute in turning operations. The set-up consists of a replicated full-factorial dataset comprising 16 treatment combinations with 10 replications per combination, where cutting speed, feed rate, depth of cut, and tool nose radius have been used as input variables. To obtain reliable estimates of out-of-sample performance for a small but information-rich manufacturing dataset, model evaluation was conducted using repeated cross-validation and group-aware validation defined at the treatment-combination level, thereby preventing replication leakage between training and test folds. The results show that nonlinear models can achieve lower prediction error than linear baselines; however, their performance is highly sensitive to hyperparameter configuration and regularization, and excessive model complexity leads to overfitting. The study establishes a reproducible benchmarking framework for predictive modeling on replicated factorial machining datasets and provides guidance for robust model selection in data-driven process planning and surface-quality monitoring.

Poster 20. Classic Vs Contemporary Advertising: Nike vs. Adidas
Student: Ashtynne Michels (*State University of New York at Fredonia*)

Mentor: Dr. Shazad Mohammed (*State University of New York at Fredonia*)

To analyze and critique the effectiveness of a major company or brand's advertising from (1) a classic (1970 to 1995) and (2) contemporary (1996 to present) time period. This is done in relation to the main industry competitor whose marketing material is compared and contrasted. We utilize applicable digital tools to create an original advertisement of the focal company/brand with callouts that articulate the evolution and explain the effective elements. Final results are summarized and presented in a bespoke visual manner. This is a multi-student project with variant advertising designs. Note that the advertising campaigns vary in subject and themes.

Poster 21. Classic and Current Advertising: Scotch Tape
Student: Leah Pintro (*State University of New York at Fredonia*)
Mentor: Dr. Shazad Mohammed (*State University of New York at Fredonia*)

To analyze and critique the effectiveness of a major company or brand's advertising from (1) a classic (1970 to 1995) and (2) contemporary (1996 to present) time period. This is done in relation to the main industry competitor whose marketing material is compared and contrasted. We utilize applicable digital tools to create an original advertisement of the focal company/brand with callouts that articulate the evolution and explain the effective elements. Final results are summarized and presented in a bespoke visual manner. This is a multi-student project with variant advertising designs. Note that the advertising campaigns vary in subject and themes.

Poster 22. Classic Vs Contemporary Advertising: McDonald's
Student: Jiang Chen (*State University of New York at Fredonia*)
Mentor: Dr. Shazad Mohammed (*State University of New York at Fredonia*)

To analyze and critique the effectiveness of a major company or brand's advertising from (1) a classic (1970 to 1995) and (2) contemporary (1996 to present) time period. This is done in relation to the main industry competitor whose marketing material is compared and contrasted. We utilize applicable digital tools to create an original advertisement of the focal company/brand with callouts that articulate the evolution and explain the effective elements. Final results are summarized and presented in a bespoke visual manner. This is a multi-student project with variant advertising designs. Note that the advertising campaigns vary in subject and themes.

Poster 23. Utilizing DMAIC to Minimize Inventory Food Waste at a Retail Event
Student: Alexis Tunstall (*State University of New York at Fredonia*)
Mentor: Dr. Lisa Walters (*State University of New York at Fredonia*)

This poster researches the effects that the DMAIC approach can have when used in the Restaurant Industry. This research poster specifically applies this approach to the ordering system used by a local VFW in preparation for fish fry Fridays. Fish fry Fridays are a local tradition in Western New York but a significant number of restaurants struggle with over or under ordering the needed amount of food for the week. As a result of the research done by applying the DMAIC approach to the local VFW's ordering system this poster will emphasize the money that can be saved as well as other benefits to the business as a result of this method.

Poster 24. Classic Vs Contemporary Advertising: Coach
Student: Lily R. Nila (*State University of New York at Fredonia*)
Mentor: Dr. Shazad Mohammed (*State University of New York at Fredonia*)

The GameBoy Pocket was advertised as a console for older audiences, which is represented very well in this specific ad, as the somewhat suggestive text certainly catches the consumers attention. Once the audience is brought in with the tagline, other notable features such as the style of jeans and the visible waistband of the model's underwear adds even more style to attract younger consumers, as it reflects popular fashion trends during that time and can allow the target audience to feel better represented by the company. Finally, the way the GameBoy Pocket's shape being visible through the jeans allows for that to become an added way to create a product and brand recognizable. This process would be seen later as a way the company produced their consoles going forward.

Poster 25. Classic Vs Contemporary Advertising: Gameboy
Student: Joseph Farinacci (*State University of New York at Fredonia*)
Mentor: Dr. Shazad Mohammed (*State University of New York at Fredonia*)

The GameBoy Pocket was advertised as a console for older audiences, which is represented very well in this specific ad, as the somewhat suggestive text certainly catches the consumers attention. Once the audience is brought in with the tagline, other notable features such as the style of jeans and the visible waistband of the model's underwear adds even more style to attract younger consumers, as it reflects popular fashion trends during that time and can allow the target audience to feel better represented by the company. Finally, the way the GameBoy Pocket's shape being visible through the jeans allows for that to become an added way to create a product and brand recognizable. This process would be seen later as a way the company produced their consoles going forward.

Poster 26. Predictive Maintenance in Manufacturing Using Artificial Intelligence
Student: Ian Schulenberg (*State University of New York at Fredonia*)
Mentor: Dr. Reneta Barneva (*State University of New York at Fredonia*)

This study explores how artificial intelligence (AI) can improve predictive maintenance in manufacturing. The research examines whether AI models analyzing sensor data can detect equipment failures earlier than traditional methods. Using machine learning techniques applied to temperature, vibration, and usage data, predictive models are developed and tested. Results show reduced downtime, lower maintenance costs, and improved efficiency. These findings suggest AI-driven maintenance can significantly enhance modern manufacturing operations.

Poster 27. Classic Vs Contemporary Advertising: Marlboro
Student: Athanasios Bakas
Mentor: Dr. Shazad Mohammed
College: State University of New York at Fredonia

Poster 28. AI Demand Forecasting in Hospitality
Student: Kayla Zgoda (*State University of New York at Fredonia*)
Mentor: Dr. Reneta Barneva (*State University of New York at Fredonia*)

Demand forecasting is essential in the hospitality industry because it helps businesses plan pricing, staffing, and daily operations. However, traditional forecasting methods often struggle to predict demand accurately due to changing customer behavior, seasonal trends, and unexpected events. This project explores how artificial intelligence (AI) can improve demand forecasting in hospitality. The central research question is: "How can AI-based forecasting methods improve demand predictions and decision-making compared to traditional forecasting methods?"

The objective of this study is to evaluate whether AI-driven models provide more accurate demand forecasts than traditional statistical approaches. The procedure involves analyzing historical data such as booking patterns, occupancy rates, pricing information, and external factors like weather and local events. Machine learning and time-series forecasting techniques are used to process this data and generate demand projection. These predictions are then compared to results from traditional forecasting models to measure their differences in accuracy.

The findings indicate that AI-based forecasting models provide more accurate and flexible demand predictions by adapting to real-time data and complex patterns. As a result, hospitality managers can better align supply with demand, reduce operational efficiencies, and increase revenue through more informed pricing and resource distribution. This research highlights the growing significance of AI as a strategic tool in modern hospitality operations and revenue management. In conclusion, AI-driven demand forecasting offers a practical and valuable tool for hotels and short-term lodging providers.

Analytics Career Fair 2026

Thursday, May 7th, 1:00pm – 3:00pm

Williams Center G138 Blue Lounge

This year the IBAC is introducing the Analytics Career Fair. The Career Fair is an opportunity for participants, particularly current students, to network with potential employers recruiting candidates in the analytics and data science fields. The Career Fair will run from 1:00 to 3:00 p.m. on Thursday in the Blue Lounge, a side room off of the Williams Center MPR.

Candidates are encouraged to bring resumes and dress professionally. This year, industries such as health care, education, finance, and logistics are represented, as well as graduate level programs in the field.

Best Paper Awards

To be announced at the conference during the closing remarks!

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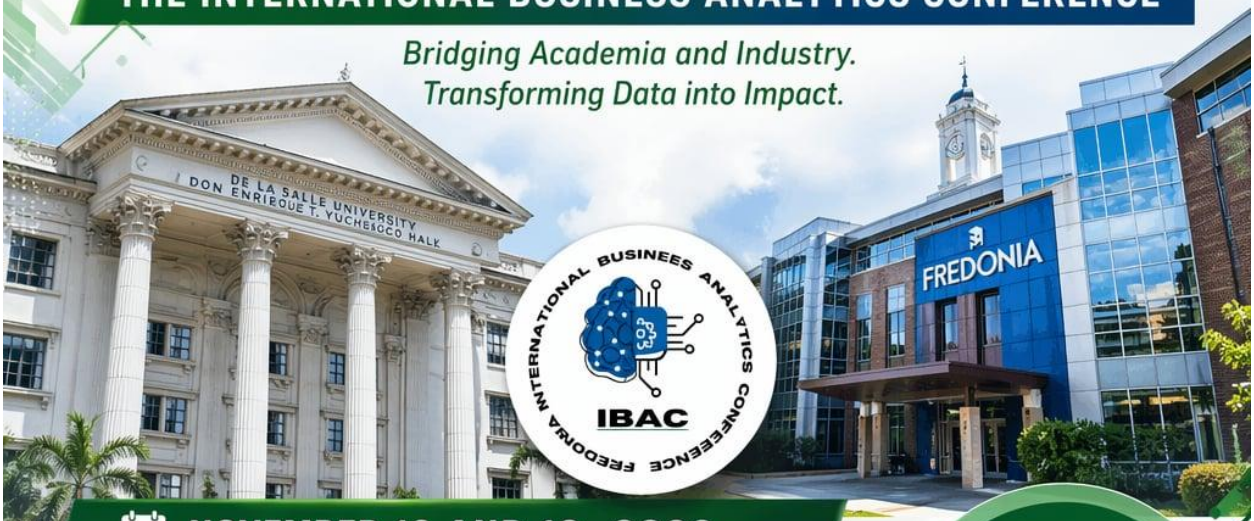

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- Business Intelligence and data visualization
- Data mining and pattern recognition
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The School of Business sustains the tradition of excellence at Fredonia, which is consistently ranked among the finest public universities in the Northeast -- and among the most affordable options in higher education. Small class sizes lead to close interaction with our faculty and the opportunity to conduct research at the undergraduate level - a hallmark of a Fredonia education. In addition, all students have opportunities for internships, available locally, regionally and across the nation.

Our students have access to the Center for Innovation & Economic Development (CIED), which supports start-up companies committed to Western New York. The Center is a New York State certified business incubator operated by SUNY Fredonia. Formerly called the Fredonia Technology Incubator (FTI), the CIED provides entrepreneurs with access to work-ready space, business consulting, mentoring and training, professional services, assistance with business formation, networking opportunities, and connections to University resources and student interns. Students work with entrepreneurs on market research, business plan development, operations and record keeping, and unique problem-solving initiatives. The Center expands the entrepreneurial aspects of our curriculum, enhances internship and employment possibilities, and inspires students to start businesses of their own.


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