



School of Business

School of Business

AY2023-24

CVs of PhD Instructors

For list of CVs, please click on this icon on the right side of the page -



Vahid Ashrafimoghari

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EDUCATION

Ph.D. in Business Administration (Information Systems & Data Analytics) **2020- Current**
Stevens Institute of Technology, School of Business, Hoboken, NJ, United States

Master of Business Administration (Strategic Management) **2008- 2011**
University of Tehran, Tehran, Iran

BSc. in Mechanical Engineering **2002-2007**
Isfahan University of Technology (IUT), Isfahan, Iran

RESEARCH INTERESTS

Computational Social Science | Behavioral Economics | Human-Computer Interactions | Decision Support Systems | Cognitive Modeling | Policy Research | Large Language Models (LLMs)

ACADEMIC EXPERIENCE

Lecturer **Spring & Fall, 2024**

- Management of A.I. Technologies, BIA-568, *MSBA elective*

Research Fellow **2020 – Current**
Cognition Lab, Stevens Institute of Technology

- Developed NLP tools leveraging large language models to detect and highlight cognitive biases in texts.
- Developed an information gap detector to measure the pairwise content gap between 28 Wikipedia language editions.
- Designed a novel language-learning architecture relying on gamification, crowdsourcing, and a human-in-the-loop model.
- Conducted research on new pricing schemes to increase transparency and consumer participation in pricing practices leveraging behavioral economics.
- Conducted research on the role of transparency in online content moderation.
- Developed a price optimization model for the entertainment industry focusing on theater ticket pricing.
- Proposed a method to increase willingness to save among college-age students by associating saving with playing games.

Research Associate **2016 –2018**
Center for Advanced Hindsight, Duke University

- Conducted research on applying behavioral economics concepts to design/redesign financial and healthcare products and services.
- Conducted a research project on drivers of our perceptions of wealth inequality across different contexts.
- Advised five Fintech and Health-tech startups to improve their value proposition design by incorporating behavioral economics findings.
- Helped Kenyans use a mobile platform to increase savings and remittances for health in a joint project between the Center for Advanced Hindsight, the Joep Lange Institute, and the PharmAccess Foundation.
- Advised non-profit organizations such as GRAMEEN America, ACCION, CFSI, LISC, and United Way of Tucson.
- Assisted in holding events to teach corporate clients how to implement behavioral economics to redesign their products, services, and policies.

Visiting Scholar **May 2017- Aug 2017**
Duke University, Economics Department

INDUSTRY EXPERIENCE

General Manager of Investments and Partnerships

Aug 2019 – Sep 2020

VISTA Investment Partners (Corporate VC)

- Oversaw activities to manage limited partner's investments in various start-ups.
- Drove year-on-year business growth while leading operations, strategic vision, and long-range planning.
- Delivered business strategy and developed systems and procedures to improve operational quality and team efficiency.

Chief Project Officer

Jun 2018 – Jul 2019

MABNA ICT Company

- Provided leadership, direction, and oversight of corporate programs and projects under development and execution
- Provided executive oversight for divisional projects and maintained responsibility for data integration and reporting for projects and programs within the organization
- Adjusted project plans to account for dynamic targets, staffing changes, and operational specifications.

Senior Marketing Manager

May 2014 – Mar 2016

MTN Irancell (Telecom Company)

- Led a team of 14 marketing professionals to achieve over 25 million data users and USD 500 million in revenue over one year.
- Oversaw Go-To-Market plans from concept through completion for the launch and monetization of broadband-related products and services.
- Oversaw commercial activities required before the launch of IPTV service (such as business planning, Developing GTM plan, branding, UX/UI design, negotiation with content owners/aggregators, etc.).

Market Development Manager

Jul 2012– May 2014

MTN Irancell (Telecom Company)

- Managed to find new markets and customer segments for internet services through defining regional campaigns led to an average of 200% sales growth across regional markets.
- Managed the timely preparation of regular customer insight reports and management dashboards to measure and monitor key marketing metrics.
- Established, initiated, and optimized business development strategies based on company targets, product specifications, market data, and budget factors.

SPONSORED RESEARCH PROJECTS

Developing an AI-powered Cognitive Advisor for Identifying and Mitigating Cognitive Errors

2022-2024

Cognition Lab

Examining Individuals' Perceptions of Wealth Inequality and Its Implications for Social and Economic Policymaking

2018

Center for Advanced Hindsight

Helping Members to Transition from Using Cash to Disbursement Cards

2017 - 2018

A joint project between the Center for Advanced Hindsight and GRAMEEN America

Helping Small Business Owners to Complete Loan Applications

2017 - 2018

A joint project between the Center for Advanced Hindsight and ACCION

Optimize the Credit Counseling Sessions and Increase the Number of People Who Sign-up for the Service

A joint project between the Center for Advanced Hindsight and Navicore Solutions

2016 - 2017

Helping Kenyans to use the M-TIBA platform for increasing savings and remittances for health

A joint project between the Center for Advanced Hindsight, Joep Lange Institute, and the PharmAccess Foundation

2016 – 2017

PUBLICATIONS

- [1] **Ashrafimoghari, V.**, Gürkan, N., & Suchow, J. W. (2024). Evaluating Large Language Models on the GMAT: Implications for the Future of Business Education. *arXiv preprint arXiv:2401.02985*.
- [2] Suchow, J. W., Burton, L., & **Ashrafimoghari, V.** (2023, May). The Design and Operation of Digital Platform Under Sociotechnical Folk Theories. In *Twenty-ninth Americas Conference on Information Systems, Panama*.
- [3] **Ashrafimoghari, V.** (2023, April). Detecting Cross-Lingual Information Gaps in Wikipedia. In *Companion Proceedings of the ACM Web Conference 2023* (pp. 581-585).
- [4] Suchow, J. W., & **Ashrafimoghari, V.** (2022). The paradox of learning categories from rare examples: a case study of NFTs & The Bored Ape Yacht Club. In *Proceedings of the Annual Meeting of the Cognitive Science Society* (Vol. 44, No. 44).
- [5] **Ashrafimoghari, V.**, & Suchow, J. W. (2022, April). A Game-Theoretic Model of the Consumer Behavior under Pay-What-You-Want Pricing Strategy. In *Proceeding of the 51st annual conference of the Decision Sciences Institute, New Jersey*.
- [6] **Ashrafimoghari, V.** (2022). Big Data and Education: using big data analytics in language learning. *arXiv preprint arXiv:2207.10572*.

POSTERS, TALKS & PRESENTATIONS

- [1] Saad-Lessler, J., **Ashrafimoghari, V.**, & Suchow, J. W. (2022). Can a virtual 'pet' take a bite out of the savings shortfall? Presented as a poster at ASSA 2022 Virtual Annual Meeting.
- [2] Burton, L., **Ashrafimoghari, V.** & Suchow, J. W. (2022). Transparency in online community moderation: the case of shadowbanning. Presented at NEDSI 2022 in Newark, NJ.

INVENTIONS

Vahid Ashrafimoghari and Jordan W. Suchow, "Information systems that detect diagnose and mitigate cognitive errors and logical fallacies", U.S. Provisional Patent Application No. 63/607,352, Filed December 7, 2023. Provisional patent application.

HONORS & AWARDS

- Lifetime Member, Beta Gamma Sigma Honorary Business School Society, 2023.
- Best Application of Theory Award, The 51st Annual Conference of the Decision Science Institute, New Jersey, 7-9 April 2022
- Provost Fellowship (2020 – 2024), Stevens Institute of Technology, School of Business
- Ranked 2nd in the Class of 2008 for the graduate cumulative GPA among all peers. Department of Business Management, University of Tehran, Tehran, Iran
- Ranked among the top 1000 in Iran's National University Entrance Exam (very competitive with over 600K participants)

JOURNAL, CONFERENCE & GRANT REVIEWING

Ad hoc reviewer for (alphabetical):

- The ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW)
- The ACM Conference on Human Factors in Computing Systems (CHI)
- The Annual Conference of the Cognitive Science Society (CogSci)
- The International Conference on Information Systems (ICIS)
- The International Journal of Computer Vision (IJCV)
- The International Conference on Human-Agent Interaction (HAI)

PROFESSIONAL SERVICES

Reviewer Board, American Journal of Computer Science and Technology (AJCST)

2024 – Current

PROFESSIONAL MEMBERSHIPS

Association for Computing Machinery (ACM)

Cognitive Science Society (CogSci)

Society for Judgment and Decision Making (SJDM)

SKILLS

Language:	Persian (Mother Tongue), English (Proficient), Spanish (Basic)
Computer Software:	STATA, Microsoft Office, and Tableau
Programming Languages:	Python, R, and Solidity
Business Skills:	Business Modeling, Financial Modeling, Pricing, Project Management, Marketing Management, Data analytics, and Design Thinking
Research Skills:	Experiment design, Survey design, and Statistical Analysis
Technical Skills:	Prompt Engineering

REFERENCES

Jordan W. Suchow, Assistant Professor at Stevens Institute of Technology & Director of the Cognition Lab

Stevens Institute of Technology, Hoboken, NJ, United States

(914) 582-2646, jws@stevens.edu

Jeffrey Nickerson, Professor at Stevens Institute of Technology

Stevens Institute of Technology, Hoboken, NJ, United States

(201) 216-8124, jnickers@stevens.edu

Dan Ariely, Professor at Duke University & Director of the Center for Advanced Hindsight (CAH)

Duke University, United States

(617) 314-4329, dan@danariely.com

ZHAOKUN CAI

156 Congress Street 1st floor, Jersey City, NJ 07307

Tel: 201-218-7956 Email: zca5@stevens.edu

Education

Stevens Institute of the Technology

Hoboken, NJ

Ph.D. candidate in Financial Engineering GPA:3.97/4.00

Expected May 2021

- Research in portfolio optimization and risk management

Stevens Institute of the Technology

Hoboken, NJ

Master of Financial Engineering GPA:3.97/4.00

Graduated May 2017

- Relevant courses: Stochastic Calculus for FE, Pricing and Hedging, Computational Methods in Finance, Introduction to Financial Risk Management, Portfolio Theory.

University of Science and Technology of China

Hefei, China

Bachelor of Mathematics and Applied Mathematics

Graduated Jun 2013

- Relevant courses: Mathematical modeling, C language programming, Optimization

Academic Research

- Research in ‘Meixner Process and application in optimal hedging Monte Carlo Simulation method’
- Research in ‘The nonlinear shrinkage portfolio and equivalent constrained optimization in Global Minimum Variance (GMV) portfolio’
- Research in ‘Eigen portfolio and eigen decomposition to improve the portfolio performance’

Statistics related Research

- The third author of ‘**Analysis of the SD model of low-carbon development in Chinese shipping industry under the background of international carbon emission market mechanisms**’ (Published in Journal of Shanghai Maritime University at 2015)
- The third author of ‘**Simulation Research of Transportation Energy Saving and Emission Reduction Technology Way Based on System Dynamics**’ (Published in Journal of Dalian Maritime University: Social Science Edition at 2015)

Teaching Experience

TA for Introduction to Financial Risk Management and Financial Enterprise risk management

TA and recitation instructor for Introduction to Stochastic Calculus for QF

TA and recitation instructor for Financial Time Series

Skills

Technology: Microsoft Office, R, Mathematica; basic knowledge in C++, Matlab, and Bloomberg.

Language: Native in Mandarin, Fluent in English

Qualification: FRM examination Level 1 passed (May 2016).

Zhiyu Cao

CONTACT INFORMATION

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Hoboken, NJ, 07030

RESEARCH INTERESTS

Systemic Risk, Dynamic Financial Contagion, Financial Network, Deep Learning, Machine Learning, Fin-tech, Large Language Model, Financial Regulation

EDUCATION

School of Business, Stevens Institute of Technology

Ph.D. in Financial Engineering, May 2024
– Advisor: Dr. Zachary Feinstein

School of Engineering, University of Southern California

M.S. in Financial Engineering, May 2019
– Advisor: Dr. Petros Ioannou

School of Economics and Business Administration, Central China Normal University

B.A. in Financial Engineering, June 2017

School of Economics, Zhongnan University of Economics and Law

B.A. in Information and Computational Science minor, June 2017

PUBLICATIONS

Zhiyu Cao, Zihan Chen, Prerna Mishra, Hamed Amini, Zachary Feinstein. *Modeling Inverse Demand Function with Explainable Dual Neural Networks.*

- We introduced a novel dual neural network model to derive the inverse demand function from only partial market data. This innovative approach enables the skillful inference of obscured asset liquidations from observable initial shocks and final equilibrium asset prices, providing new insights into price-mediated contagion. This data-driven method contributes significantly to the field by enhancing the understanding and modeling of economic phenomena.
- Accepted and orally presented at the 4th ACM International Conference on AI in Finance (ICAIF 2023), NY, US.
- Presented at the American Mathematical Society Meeting, Buffalo, NY, US.

Zhiyu Cao, Zachary Feinstein. *Price-Mediated Contagion with Endogenous Market Liquidity.*

- We introduce a framework to understand price-mediated contagion in a system where the capacity of the market to absorb liquidated assets is determined endogenously. In doing so, we construct a joint clearing system for interbank payments, asset prices, and market liquidity. We establish mild assumptions which guarantee the existence of the greatest and least clearing solutions. We conclude with detailed numerical case studies which demonstrate the, potentially severe, repercussions of endogenizing the market liquidity on system risk.
- Under revision at Mathematics and Financial Economics

Zhiyu Cao, Zachary Feinstein. *Large Language Model in Financial Regulatory Interpretation*.

- We explore the innovative use of Large Language Models analytical tools for interpreting complex financial regulations. The primary objective is to design effective prompts that guide LLMs in distilling verbose and intricate regulatory texts, such as the Basel III capital requirement regulations, into a concise mathematical framework that can be subsequently translated into actionable code. This novel approach aims to streamline the implementation of regulatory mandates within the financial reporting and risk management systems of global banking institutions. A case study was conducted to assess the performance of various LLMs, demonstrating that GPT-4 outperforms other models in processing and collecting necessary information, as well as executing mathematical calculations. The case study utilized numerical simulations with asset holdings – including fixed income, equities, currency pairs, and commodities – to demonstrate how LLMs can effectively implement the Basel III capital adequacy
- Accepted at IEEE Symposium on Computational Intelligence in Finance and Economic Conference 2024 (CIFEr 2024), Hoboken, New Jersey, US. 2024

WORKING PAPERS
& PROJECTS

- **Zhiyu Cao**, Zachary Feinstein. *Comparative Analysis of Graph Neural Networks and Traditional Neural Networks in Multi-Agent Systems for Systemic Risk*.
- **Center for Research toward Advancing Financial Technologies (National Science Foundation) Project: AI Compliance Officer** — Collaboration with PI: Zachary Feinstein.

AWARDS AND
GRANTS

2023–2024	Center for Research toward Advancing Financial Technologies (CRAFT) Scholarship School of Business, Stevens Institute of Technology.
2020–2023	Teaching Assistant Fellowship School of Business, Stevens Institute of Technology.
2017	Global Engineers Scholarship School of Engineering, University of Southern California.
2016	Outstanding Student Award Office of Academics, Central China Normal University.
2016	Boya Jingui Academic Scholarship (First-class Prize) Academic Affairs Office, Central China Normal University.

COURSE
INSTRUCTION

FE 511	Introduction to Bloomberg and Thomson-Reuters
FE 515	Introduction to R
QF 104	Data Management in R
QF 212	Advanced Probability and Stochastic Processes for Quantitative Finance

TEACHING
ASSISTANCE

FE 540	Probability Theory for Financial Engineering
FE 570	Market Microstructure Trading Strategy
QF 202	Financial Time Series
FE 550	Data Visualization Application
FE 590	Statistical Learning

INVITED TALKS	<i>Large Language Model in Financial Regulatory Interpretation</i> , Stevens Finance Brown-bag Sessions, Hoboken, U.S., April 2024.
	<i>Price-Mediated Contagion with Endogenous Market Liquidity</i> , the 4th ACM International Conference on AI in Finance (ICAIF 2023), New York, U.S., November 2023.
	<i>Price-Mediated Contagion with Endogenous Market Liquidity</i> , the Fall Eastern Sectional Meeting of the American Mathematical Society, Buffalo, U.S. September 2023.
MEMBERSHIP	IEEE Member ACM - Association for Computing Machinery Member
WORKING EXPERIENCE	Stevens Institute of Technology, Hoboken, NJ Course Instructor - FE 511: Introduction to Bloomberg and Thomson-Reuters - FE 515: Introduction to R – Master’s Core Course – Students’ course evaluation score: 4.83/5.0 - QF 104: Data Management in R - QF 212: Advanced Probability and Stochastic Processes for Quantitative Finance – Undergraduate Core Course – Students’ course evaluation score: 4.5/5.0 Teaching Assistant - FE 540: Probability Theory for Financial Engineering - FE 570: Market Microstructure Trading Strategy - QF 202: Financial Time Series - FE 550: Data Visualization Application - FE 590: Statistical Learning Institute of Software, Chinese Academy of Sciences, Beijing, China Dynamic Index Updates of Moving Taxi - We develop a real-time system for tracking and updating moving taxis, using GPS and advanced algorithms to enhance urban transport efficiency. - The system predicts taxi positions, analyzes traffic and demand patterns using machine learning. - It prioritizes data privacy while aiming to reduce congestion and improve service quality in urban transportation.
RELEVANT SKILLS	- Programming and Machine Learning: • Python: Highly experienced in data analysis and web mining, demonstrating proficiency in developing complex algorithms and managing large-scale data sets. • R: Specialized in statistical analysis and data visualization, with a strong emphasis on delivering insightful and actionable findings. • MATLAB: Proficient in mathematical modeling and algorithmic development. - Software: • Bloomberg: Experienced in financial data analysis and tracking market trends. • Tableau: Expert in creating interactive dashboards and visual analytics. • SPSS: Used for statistical analysis and predictive modeling.

REFERENCES

Dr. Zachary Feinstein, Assistant Professor and Director of the Fintech Certificate Program, School of Business, Stevens Institute of Technology, zfeinste@stevens.edu

JING CHEN

9279 riverside station blvd, Secaucus, NJ 07094

☎ 315-396-5888 ✉ arya.jchen@gmail.com 🌐 <https://www.linkedin.com/in/jing-chen777/>

Education

Stevens Institute of Technology Ph.D. in Data Science, GPA: 3.9	Hoboken, NJ – Present
Syracuse University M.S. in Applied Statistics, GPA: 3.6	Syracuse, NY – May, 2019
Lanzhou Jiaotong University B.S. in Business Administration, GPA: 3.5	Lanzhou, China – June, 2016

Coursework

- Machine Learning
- Natural Language Processing
- Deep Learning
- Artificial Intelligence
- Big Data Technologies
- Marketing Analytics

Skills

Python, PyTorch, TensorFlow, SQL, Excel, SAS, R, Power BI, Azure, AWS, Apache Hive, SPSS

Work Experience

Microsoft Corporation	July 2019 – Feb 2021
<i>Data Scientist Contractor</i>	<i>Seattle, WA</i>

- Worked with stakeholders to formulate business problems. Applied Machine Learning methods to analyze user behaviors in answers.microsoft.com. Calculated evaluation metrics and utilized prediction values for targeting and reporting.
- Collected customer segments, established prototypes, and designed dashboards for analyzing M365 template subscription. Cooperated in AB test design, and supported internal search engine operation and improvement.
- Explored Big Data on cutting-edge cloud technologies. Consolidated unstructured data and bridged them from diverse sources to create new insight and facilitate the work of teams. Visualized the model result that connects traffic data with customer features to understand the impact of marketing touchpoints from the customer level.
- Interacted with teams across the organization to solve their analytics need, onboard new data sources, build knowledge trust and promote data-driven solutions.

Sina Weibo (NASDAQ: WB)	June 2018 – Sep 2018
<i>Data Scientist Intern</i>	<i>Beijing, China</i>

- Took full responsibility for researching algorithms, establishing prototypes, and creating visualized dashboards. Collaborated with multiple stakeholders to agree on use cases in the project.
- Collected 5M+ user data entries from Apache Hive, transferred the raw data into Python and performed data cleansing tasks, which included handling missing values and identifying fake accounts based on user features.
- Implemented statistical modeling to gain insights from customer demographics and various behavioral patterns.
- Proposed algorithms to automatically target potential customers for the new product “Fandom” which launched in 2018.

China Development Bank (Gansu Branch)	July 2016 – June 2017
<i>Financial Analyst</i>	<i>Lanzhou, China</i>

- Engaged in customer communication and conducted the collection, organization, and categorization of financial data.
- Analyzed customer demographics, preferences, and purchase history to identify potential use cases for personalized recommendations by using Excel & R, according to the bank’s customer stratification principles.
- Monitored and analyzed sentiment analysis to assess the attitudes associated with a product/service experienced by its customers. Developed and applied marketing strategy for customer segments to the actual product promotion process.

Projects

Hospitalization Rates Forecasting with Heterogeneous Transfer Learning	Jun 2023
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- Proposed a novel framework using heterogeneous transfer learning to predict early-stage hospitalization rates, which outperformed state-of-the-art benchmarks by up to 3.6% in RMSE across various lead time of ground truth.
- Provided valuable statistical evidence and support to enhance the sustainability of healthcare systems.
- Leveraged correlation tests to demonstrate the significant correlation between COVID-19 cases and hospitalizations.
- Adopted multimodal data learning methods to learn the impact of news sentiment and semantic features on hospitalization to interpret non-traditional variation patterns.

Emerging Pandemic Forecasting with Multimodal Data Analysis	May 2022
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- Proposed a novel framework for forecasting emerging pandemics at an early stage, significantly surpassing state-of-the-art baselines by up to 6.8% in terms of RMSE, across various lead times of ground truth.
- Adopted Graph Neural Network based model to learn historical time-series patterns in a dynamic propagation process.

- Designed transfer learning architecture to learn general patterns of existing diseases for new pandemic prediction.
- Designed a multimodal learning module to analyze the impact of news sentiment and semantic features on epidemic transmission. Improved accuracy by up to 21.8% in terms of RMSE with a 14-day lead time.

German Credit Scoring Data Classification and Prediction

April 2019

- Used K-fold cross-validation to split the dataset into training data and testing data for fitting the model.
- Applied the lasso regression, ridge regression, decision tree, and random forest to predict and classify the credit scoring.
- Calculated confusion matrix to compare the model performance. The decision tree has better calibration and prediction because of higher sensitivity and higher specificity. Predicted the credit risk of new clients based on model results.

How Income and Education Affect Health Status

May 2017

- Gathered raw data from the Minnesota Population Center website and imported it into Python for data cleaning and missing value handling. Provided a description of data statistics and generated relevant charts.
- Built a logistic regression model and performed diagnostics for multicollinearity and outliers.
- Concluded that a positive relationship exists between educational attainment, income, and health status.

Publication

- Chen J, Creamer GG, Ning Y, Ben-Zvi T. Healthcare Sustainability: Hospitalization Rate Forecasting with Transfer Learning and Location-Aware News Analysis. *Sustainability*. 2023 Nov 10; 15(22):15840.
- J. Chen, G. Creamer, and Y. Ning. Forecasting Emerging Pandemics with Transfer Learning and Location-aware News Analysis. *2022 IEEE International Conference on Big Data (IEEE BigData)*. Osaka, Japan, 2022
- Nanxu Chen, Dongqing Sun, and Jing Chen. 2022. Digital transformation, labour share, and industrial heterogeneity. *Journal of Innovation and Knowledge*. Volume 7, Issue 2, 2022.
- Dongqing Sun, Fanzhi Wang, Nanxu Chen, and Jing Chen. 2021. The Impacts of Technology Shocks on Sustainable Development from the Perspective of Energy Structure—A DSGE Model Approach. *Sustainability*. Volume 13, 2021.

Zhi Chen

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EDUCATION

Stevens Institute of Technology <i>Doctor of Philosophy in Financial Engineering</i>	08/2021 - Present Hoboken, NJ
Stevens Institute of Technology <i>Master of Science in Financial Engineering (GPA: 3.9)</i>	08/2019 - 05/2021 Hoboken, NJ
Guangzhou University <i>Bachelor of Science in Physics</i> <i>Bachelor of Science in Finance</i>	09/2013 – 06/2017 Guangzhou, China

- Honors: Scholarship, Excellent Student for Support Education, Excellent League Member

PROFESSIONAL EXPERIENCE

Research Assistant Machine Learning in Credit Risk Project <i>Stevens Institute of Technology & UBS</i>	08/2021 - Present Hoboken, NJ
• Implemented ARMA, GARCH models to analyze time-series financial dataset • Optimized Machine Learning, Deep Neural Network techniques to assess and predict corporate credit ratings • Adopted NLP methods to transform textual financial reports (10-k) into a numeric vector as additional features • Designed Explainable AI (XAI) algorithms to provide interpretation for "Black Box" of machine learning and offer recommendation for companies to improve credit ratings	
Data Analyst Management Curriculum for The Digital Era Project - Macude.org <i>Stevens Institute of Technology, PwC & AACSB</i>	05/2020 – 08/2020 Hoboken, NJ
• Communicated with global task force leaders for strategies, analytic methods, and data collection • Collaborated with 9 global teams to implement web mining techniques to automatically collect discipline metadata • Utilized NLP methods in Named Entity Recognition (NER) task and relevant information extraction task • Built a Siamese Neural Network to compare similarity between two text materials	
Teaching Assistant Courses Tutorial <i>Stevens Institute of Technology</i>	02/2020 - Present Hoboken, NJ
• Skilled in and afforded guidance for courses: Deep Learning and Business Applications, Advanced Time Series Analytic and Machine Learning, Stochastic Calculus, Portfolio Theory and Applications, Financial Risk Management	
Bid Specialist Property Management <i>Guangzhou Kaiwu Property Management Co., Ltd</i>	07/2017 – 07/2018 Guangzhou, China
• Compiled tender documents, supervised bidding process, designed online system and database	
High School Physics Teacher <i>Guangzhou high School</i>	09/2016 – 12/2016 Guangzhou, China
• Coached 200+ students for physics lessons, demonstrated physics experiments	

PUBLICATION

- Wang, Dan, Zhi Chen, and Ionut Florescu. "A Sparsity Algorithm with Applications to Corporate Credit Rating." arXiv preprint arXiv:2107.10306 (2021)
- Guang Liu, Zhi Chen, and Hejian Liu. "An analysis of security return based on one-dimensional asymmetric Square Well." Journal of Guangzhou University (Natural Science edition) 17.3 (2018): 11-16

LEADERSHIP EXPERIENCE

Product Manager <i>"Internet + " - Information Technology Service Innovation and Entrepreneurship Competition</i>	12/2017 – 06/2018
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SKILLS

- **Programming Languages:** Python (Advanced), R, C++, SQL, Bloomberg, LaTeX, Tableau
- **Certifications:** National Senior Teacher Certification, Certificate of Accounting profession of P.R. China
- **Languages:** English, Mandarin, Cantonese

Zihan Chen

CONTACT INFORMATION	Email: zchen61@stevens.edu Mobile Phone: (201) 680-1738 Address: 29 Hancock Ave Jersey City, NJ 07307
RESEARCH INTERESTS	Time Series Analysis, Natural Language Processing, Deep Learning Models, Graph Embeddings, Social Network Analysis
EDUCATION	School of Business, Stevens Institute of Technology Ph.D. Student, Business Administration (expected May 2024) • Advisor: Dr. Feng Mai • Concentration: Information Systems and Analytics • GPA: 3.8/4 School of Business, Stevens Institute of Technology M.S. in Business Intelligence and Analytics, May 2019 • Concentration: Data Science • GPA: 4.0/4 School of Economics, Shandong University B.A. in Economics, June 2016 • Concentration: International Economics and Trade
PUBLICATIONS	Feng Mai, Zihan Chen, and Aron Lindberg. <i>Does Sleep Deprivation Cause Online Incivility? Evidence from a Natural Experiment.</i> (ICIS 2019)
WORKING PAPERS	Zihan Chen, Rong Liu, Feng Mai, and Xuying Zhao. <i>Leveraging Clickstream Data for Sales Forecasting: A Deep Learning Approach with Graph-based Learning.</i> Zihan Chen, and Feng Mai. <i>Proactive Incivility Detection in Online Communities: A Link Prediction Approach.</i>
AWARDS AND GRANTS	2019–2024 Provost Doctoral Fellowship School of Business, Stevens Institute of Technology 2020 Ph.D. Student Conference Fellowship School of Business, Stevens Institute of Technology
TEACHING ASSISTANCE	BIA 652 Multivariate Data Analytics BIA 658 Social Network Analytics MIS 630 Data Management MIS 637 Data Analytics and Machine Learning MIS 636 Data Warehousing and Business Intelligence CS 561 Database Management Systems
REVIEWER	2021 International Conference on Information Systems (ICIS) 2020 International Conference on Information Systems (ICIS)

CONFERENCE TALKS	<i>The Dark Side of Social Media</i> , 2019 International Conference on Information Systems Conference, Munich, Germany. (Dec 2019)		
MEMBERSHIP	AIS - Association for Information Systems Member		
RELEVANT SKILLS	Programming:	Python, R, MySQL, MATLAB, HTML, SAS	
	Software:	Tableau, SAS JMP, Gephi, SPSS, Stata, Excel VBA	
	Language:	English, Mandarin Chinese	
WORKING EXPERIENCE	2019–presesnt	Research Assistant	Stevens Institute of Technology
	2017–2019	Teaching Assistant	Stevens Institute of Technology
	2015-2016	Data Analyst Intern	Jiangxi Yijiyang E-Commerce Ltd.
REFERENCES	Dr. Feng Mai , Assistant Professor, School of Business, Stevens Institute of Technology, (201) 216-3815, fmai@stevens.edu		

Zhiyang (Zayn) Deng

(323) 327-6867 zdeng10@stevens.edu Jersey City, NJ, 07307  Zhiyang Deng LinkedIn

EDUCATION

STEVENS INSTITUTE OF TECHNOLOGY *Hoboken, NJ*

Aug 2020 – Jan 2025 (expected)

Ph.D Candidate in Financial Engineering GPA: 3.86/4.00

Selected Courses: Convex/Stochastic Optimization, Stochastic Processes, Theoretical Statistics, Econometrics, C++ & Algorithm

Activities: Lecturer (Python in Financial Application, Bloomberg), TA (Stochastic Calculus, Computational Methods in Finance)

Website: <https://scholar.google.com/citations?user=JuLlgnUAAAAJ>

UNIVERSITY OF SOUTHERN CALIFORNIA (USC) *Los Angeles, CA*

May 2020

M.S. in Financial Mathematics GPA: 3.91/4.00

Selected Courses: Stochastic Calculus, Stochastic Differential Equations & Control Theory, Numerical PDEs, Asset Pricing

NANCHANG UNIVERSITY *Nanchang, China*

June 2016

B.S. in Mathematics and Applied Mathematics

PUBLICATIONS

- **Z. Deng**, et al, Fine-Tuning Large Language Models using Data Fusion in Financial Applications, accepted by IJCAI 2024
- **Z. Deng**, et al, FinCon: A Synthesized LLM Multi-Agent System with Conceptual Verbal Reinforcement for Enhanced Financial Decision Making (under review), Neurips 2024
- Q. Xie,...**Z. Deng**, et al, The FinBen: An Holistic Financial Benchmark for LLMs (under review) , Neurips 2024
- **Z. Deng**, Z. Cui, et al, Quantum Method on Crypto Arbitrage Opportunities Detection (oral presentation), LMDE 2023

EXPERIENCE

RBC Capital Markets *New York, NY*

June 2023 – Aug 2023

Core Quants Summer Associate, Manager: Jay Yao

- Developed fast risk algorithm for calibrated IR LGM model to elaborate its sensitivity to market perturbation, especially the shift of both SABR model parameters and yield curve.
- Ensured algorithm output accuracy with an error percentage below 1% for SABR parameter risks (vol, Rho, Nu) and below 3% for yield curve Delta risk (validated results via 10-year Bermudan swaptions).
- Reduced time complexity from $\mathcal{O}(N^{1.6})$ to $\mathcal{O}(N \log N)$, greatly enhancing efficiency compared to the original “bump-ravel” algorithm (involving re-calibration), and successfully implemented the algorithm in the RBC Felix system using C++.

Arc Capital *Remote, US*

June 2022 – Sep 2022

Quantitative Developer Summer Intern, Manager: Eileen Zhou

- Developed deep reinforcement learning model (with double deep Q-Network) to improve the profitability of trading strategy on gold commodity (200% higher than the accumulate return of buy&hold strategy on testing dataset), and the training dataset contains 6-Month one-minute tick data of gold price and retail investors information.

USC, Department of Mathematics *Los Angeles, CA*

Jul 2019 – Dec 2019

Research Assistant, Supervisor: Dr. Ricardo Mancera

- Approximated realized volatility (for intraday returns) of S&P 500 index via MSRV estimator, and estimated parameters of Heston model by using pseudo maximum likelihood estimation.
- Utilized exponential stochastic volatility model (combining with realized and implied vols estimators) for volatility forecasting.

China International Capital Corporation (CICC) *Shanghai, China*

Oct 2017 – Dec 2017

Asset Management Intern, Supervisor: Dr. Hanqing Zhao

- Back-tested a Calendar Spread Arbitrage trading strategy on 5-year treasury bond futures & a MACD trading strategy on 8 kinds of commodity futures, and developed comprehensive research reports.

RESEARCH

A McKean-Vlasov type Principal-Agent Problem

Feb 2024 – Present

On working with Liwei Huang, Dr. Zhenyu Cui, Dr. Ibrahim Ekren

- Build optimal contract theory under McKean-Vlasov type optimal control assumptions.
- Derive the corresponding HJB-FP PDE systems of risk-averse principal-agent problem under distortion risk measures, e.g. conditional value at risk (CVaR)

Mean Field Games under Dynamic Risk Measures via g -Expectation

Feb 2024 – Present

On working with Dr. Mathieu Laurière

- Derive HJB-FP PDEs system and forward backward SDEs system of mean field games under time-consistent dynamic risk measures via g -expectation.
- Provide well-posedness results of two systems: existence and uniqueness.

- Give an example of linear quadratic MFG under time-inconsistent dynamic risk measure.

Reinforcement Learning Algorithms of Risk-averse Mean Field Games

Nov 2023 – Present

On working with Dr. Mathieu Laurière and Dr. Deepanshu Vasal

- Develop a policy gradient algorithm and a Q-learning algorithm of discrete time mean field games under Markov risk measures.
- Extend sequential decomposition techniques (work from Dr. Vasal) to discrete time MFGs with exponential cost.

PROJECTS

Sentiment Analysis & Portfolio Optimization (Python)

Nov 2021 – Dec 2021

- Designed and implemented a trading strategy on 10 different stocks selected from S&P500 index based on sentiment analysis data (from Sentdex API) with a Sharpe ratio of 1.41 & max drawdown of 11.81%, against the benchmark – mean-variance portfolio with shrinkage estimator on the same 10 stocks (with a Sharpe ratio of 0.71 & max drawdown of 23.33%).

Credit Card Fraud Detection (Python)

Oct 2021 – Dec 2021

- Implemented logistic algorithms on the Kaggle dataset (see link) & applied SMOTE, ADASYN random sampling methods to decrease imbalance effect and to improve algorithm accuracy rate (e.g. the accuracy has been improved from 58.16% to 92.86% under Precision-Recall curve).

SKILLS

Statistics: Time Series Analysis, Monte Carlo, Bayesian Inference (basic).

ML/DL/RL: Regression, Tree-based Model, Robust PCA, CNNs, Diffusion Model, DQN, Actor-Critic, PPO, TRPO, SAC

Technical Skills: C++, Python(Pandas, NumPy, Matplotlib, SciPy, PyTorch), L^AT_EX, MATLAB(CVX), Git/GitHub.

AWARDS

Provost Doctoral Fellowship, Stevens Institute of Technology

Aug 2020

Outstanding Graduate, Nanchang University

May 2016

Jacob Erickson
Norwalk, Connecticut
Phone: (206) 452-9069
Email: jericks2@stevens.edu

ACADEMIC EMPLOYMENT

Visiting Assistant Professor, Computer Science
Vassar College | Poughkeepsie, NY

Incoming August 2024

EDUCATION

Doctor of Philosophy in Data Science
Stevens Institute of Technology | Hoboken, NJ

Expected July 2024

Master of Science in Computer Science
Northeastern University | Seattle, WA

August 2020

Bachelor of Arts in Business Administration, Accounting
University of Washington | Bothell, WA

June 2015

Associate in Arts
Shoreline Community College | Shoreline, WA

August 2012

RESEARCH INTERESTS

Online Communities, Social Computing, Digital Political Communication, Technology & Society, Human-Computer Interaction, Text Analysis, Social Media, Data Science

MANUSCRIPTS UNDER REVIEW AND IN-PREPARATION

Erickson J., Yan B. Anti-Hate Content Moderation and Alt-Tech: The Case of BitChute. *ACM Conference on Computer-Supported Cooperative Work & Social Computing (CSCW) 2024. Revise & Resubmit.*

Yan B., Gurkan N., **Erickson J.**, Han B. AI in Team Decision-Making: Timing, Information Elaboration & Performance. *In preparation for submission to Management Information Systems Quarterly (MISQ).*

Erickson J., Yan B. Global Governance and Alt-Tech: How External Actors Shape Platform Discourses. *In preparation for the ACM Conference on Human Factors in Computing Systems (CHI) 2025.*

PEER-REVIEWED JOURNAL PUBLICATIONS

Erickson J. (2024). Rethinking the Filter Bubble? Developing a Research Agenda for the Protective Filter Bubble. *Commentary. Big Data & Society*, 11(1). <https://doi.org/10.1177/20539517241231276>.

Erickson J., Yan B., Huang J. (2023). Bridging Echo Chambers? Understanding Political Partisanship through Semantic Network Analysis. *Social Media + Society*, 9(3). <https://doi.org/10.1177/20563051231186368>.

Erickson J., Yuzon J., Bonaci T. (2022). What You Do Not Expect When You Are Expecting: Privacy Analysis of Femtech. *IEEE Transactions on Technology and Society. Volume: 3 Issue: 2: 121-131.*

PEER-REVIEWED CONFERENCE PROCEEDINGS

Erickson J., Yan B. (2024). Affective Design: The Influence of Facebook Reactions on the Emotional Expression of the 114th US Congress. *ACM Conference on Human Factors in Computing Systems (CHI) 2024*. <https://doi.org/10.1145/3613904.3641935>.

Wu, K., **Erickson, J.**, Wang, W.H., Ning Y. (2022). Equipping Recommender Systems with Individual Fairness through Second-order Proximity Embedding. *ASONAM 2022: IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining*.

TEACHING

Instructor

Stevens Institute of Technology

- BIA 658: Social Network Analysis (Masters) *Fall 2023*
- BT 466 Workshop: Data Analytics (Undergraduate) *Fall 2023*
- Pre-College Program: Introduction to Coding (High School) *Summer 2022*

Teaching Assistant

Stevens Institute of Technology

- BIA 500: Business Analytics: Data, Models & Decisions (Masters) *Spring 2024*
- BIA 658: Social Network Analysis (Masters) *Spring 2024*
- BIA 658: Social Network Analysis (Masters) *Spring 2023*
- CS 561: Database Management Systems (Masters) *Spring 2022*
- CS 442: Database Management Systems (Undergraduate) *Fall 2021*

Teaching Assistant

Northeastern University

- CS 6220: Data Mining Techniques (Masters) *Summer 2020*

AWARDS

Provost Doctoral Fellowship

Stevens Institute of Technology

Pivotal Ventures Scholarship

Northeastern University

Merit Scholarship

Northeastern University

Magna Cum Laude Graduation Honor

University of Washington

President's List Graduation Honor

Shoreline Community College

PROFESSIONAL SERVICE

Reviewer

New Media & Society

Summer 2024

Reviewer Social Media + Society	<i>Spring 2024</i>
Reviewer New Media & Society	<i>Fall 2023</i>
Member of the Search Committee for the Vice President for Enrollment Management Stevens Institute of Technology	<i>Spring 2022</i>
Reviewer International Conference on Information Systems (ICIS)	<i>Spring 2022</i>
Doctoral Student Liaison, Graduate Student Council Stevens Institute of Technology	<i>2021-2022 Academic Year</i>
Club Council Treasurer University of Washington	<i>2013-2014 Academic Year</i>

SOFTWARE KNOWLEDGE

Languages: Python, SQL, R, Java

Libraries & Other Software: Pandas, Scikit-learn, Jupyter Notebook, Gephi, Tableau, Excel

PROFESSIONAL CERTIFICATIONS

Certified Public Accountant <i>Washington State Board of Accountancy</i>	<i>Certified October 2017</i>
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INDUSTRY EXPERIENCE

Financial Analyst <i>Amazon.com Seattle, WA</i>	<i>June 2015-March 2018</i>
Financial Analyst Intern <i>Amazon.com Seattle, WA</i>	<i>September 2014-March 2015</i>
Partner Development Intern <i>MindBloom Seattle, WA</i>	<i>June 2013-August 2013</i>

Necdet Gurkan

Curriculum Vitae

Contact

ngurkan@stevens.edu

Education

2019-2023 (Expected) **Doctor of Philosophy, Business Administration**

Stevens Institute of Technology

2019 **Master of Science in Information Systems, The McDevitt Research Fellow**

Le Moyne University

GPA: 3.81

Thesis: This study examines methodical evaluations of alternative CNNs approaches in resource-constrained settings to improve prediction of human mental representation of complex natural stimuli. This research can guide scholars in understanding the applicability of different CNN approaches when using limited computational power. The importance of the study is to show which steps are important in building CNN to capture human mental representations, the power of the different CNN approaches, and to provide guidance for research in resource.

2017 **Bachelor of Arts in Psychology**

Saint Leo University

GPA: 3.54

Major GPA: 3.7

Languages: Turkish (Native), French, and English

Programming Skills: R, Python, MATLAB, and JavaScript.

Honors and Awards

2019-2020 Provost Doctoral Fellowship

2018-2019 The McDevitt Research Fellow

2017 Academic Outstanding Athlete of the Year

2016- 2017 State Conference Honor Roll

2016- 2017 Division 2 ADA Academic Achievement Award

2016-2017	Top 15% Student Athlete GPA (President's Club)
2015-2017	NABC Honor Court Member
2015- 2017	Dean's List, College of Arts & Science
2013- 2017	SLU Athletic Grant
2013- 2017	Pride Award
2013-2017	SLU Merit Award

Research Interest

- Cognitive computational modeling.
- Vision, learning, and memory.
- Integration of cognitive science and technologies.

Research Experience

Summer Research Assistant, Prof. Donchin's Laboratory

Department of Psychology

University of South Florida

2017-2017

Responsibilities: In this role, I was working on investigating the ways to increase speed of BCI in paralyzed individuals. Duties included collecting data, programming, and analyzing data.

Research Assistant, Prof. Donchin's Laboratory

Department of Psychology

University of South Florida

2017(Fall)- 2018 (Summer)

Responsibilities: In this role, I worked on an ego depletion project to exam the possible meditating effect on task performance. Duties included installing EEG on participants, collecting, and analyzing data.

Research Assistant, Memory Laboratory

Department of Psychology

University of South Florida

2017(Fall)- 2018

Responsibilities: In this role, I worked on creating my own experiment to examine mean discrimination of visual system by using MATLAB.

The McDevitt Research Fellow

Madden Business School

Le Moyne University

2018- 2019

Responsibility: Using ensemble of convolutional neural network to predict human natural stimuli categorization in resource-constrained settings.

Jujun Huang

Stevens Institute of Technology
School of Business
1 Castle Point Terrace, Hoboken, NJ 07030

updated June. 2024
Email: jhuang21@stevens.edu
Phone: 551-240-9507
Website: <https://jhuang2023.github.io/>

EDUCATION **Stevens Institute of Technology** Hoboken, NJ
Ph.D. in Business Administration Jan. 2019 - May. 2024
Information Systems & Analytics Concentration
Dissertation: *More than Words: Mining Managerial Disclosures for Hidden Cues*
Committee: Rong Liu (chair), Ying Wu, Bei Yan, Majeed Simaan, Zhongju(Jhon) Zhang

M.S. in Business Intelligence & Analytics May 2018
Data Science Concentration

Shanghai University of International Business and Economics Shanghai, China
B.B.A. June 2014

RESEARCH Design Science
Research Method: Natural Language Processing, Deep Learning
Applied Area: FinTech, Social Media Analytics

PUBLICATION *Published Paper*

Liu R., Huang J., Zhang Z. (2022). Tracking Disclosure Change Trajectories for Financial Fraud Detection, ***Production and Operations Management***.
Doi: 10.1111/poms.13888

Working Papers

Huang J., Liu R., Wu Y., Henry E., and Yang W. More than Words: Quantifying Skepticism toward Firm's Fundamentals, finalizing submission to ***Contemporary Accounting Research***.

Wilkenfeld J. N., Yan B., Huang J., Luo G., & Alga K. AI in Love with You: Linguistic Convergence in Human-Chatbot Relationship Development, in preparation for submission to ***Journal of Computer-Mediated Communication***.

Peer-reviewed Conference & Workshop Papers

Huang J., Liu R., Wu Y., and Yang W. (2022). More than Words: Quantifying Colloquial Skepticism toward Firm's Fundamentals, ***Financial Management Association (FMA) Annual Meeting***. 2022.

Wilkenfeld J. N., Yan B., Huang J., Luo G., & Alga K. (2022). AI in Love with You: Linguistic Convergence in Human-Chatbot Relationship Development, ***Academy of Management (AOM) Proceedings***. 2022.

Huang J., Liu R. (2021). Leveraging Disclosure Change Trajectories to Detect Financial Frauds, ***Workshop on Information Technology and Systems (WITS)***.2021. (**Best Student Paper Award**).

On-going Projects

Huang J., Liu R. Interpreting Market Risks with Deep Learning Method, (Experiment Stage)

HONOR & AWARD	Best Student Paper Award in Workshop on Information Technology and Systems (WITS)	Dec. 2021
	Graduate Assistantship in Stevens Institute of Technology	2019 – Present
	Master's Fellowship, Stevens Institute of Technology	2016
PRESENTATION	More than Words: Quantifying Colloquial Skepticism Toward Firm's Fundamentals <i>Financial Management Association (FMA) Annual Meeting</i> Atlanta, GA	Oct. 2022
	Texas State University, San Marcos, TX	Apr. 2023
	Baruch College, CUNY, New York City, NY	May 2023
	University of Massachusetts - Boston, Boston, MA	June 2023
	AI Love with You: Linguistic Convergence in Human-Chatbot Relationship Development <i>Academy of Management (AOM) Annual Meeting</i> Seattle, WA	Aug. 2022
	Leveraging Disclosure Change Trajectories to Detect Financial Frauds <i>Workshop on Information Technology and Systems (WITS)</i> Austin, TX	Dec. 2021
TEACHING EXPERIENCE	Instructor, Stevens Institute of Technology Business Intelligence and Data Integration, MIS-634 <i>Master core course</i>	2022 / 2023 / 2024-Spring <i>Teaching Evaluation: 4.0 / 5.0</i>
	- Taught weekly lectures about business intelligence and relational/ non-relational databases (ER modeling, dimensional modeling, ETL, data visualization, etc.) - Provided tutorials about the operation of database and data analysis tools, such as Erwin, Alteryx, MongoDB, Tableau - Designed course materials, in-class exercises, and homework	
	Teaching Assistant, Stevens Institute of Technology Web Mining, BIA-660 <i>Master core course</i>	2021
	- Assisted 150+ students to learn and understand Python programming, natural language processing, text classification, text clustering, topic modeling, and sentiment analysis	
SERVICE	Journal and Conference Review	
	International Conference on Information Systems (ICIS)	2024
	Workshop on Information Technology and Systems (WIST)	2023
	Conference on Information Systems and Technology (CIST)	2023
	Machine Learning with Applications	2023
	Machine Learning with Applications	2022
	INFORMS Workshop on Data Science	2022
	IEEE International Conference on Services Computing	2021
NON-ACADEMIC EXPERIENCE	Data Science Intern, United Nations New York City, New York	Mar. 2018 – Sep. 2018
	- Applied advanced natural language processing techniques to process text data - Built models by combining several algorithms (SVM, XGBoost, etc.) - Provided artificial intelligence solution to textual classification for the UN's website	
	Marketing Researcher, InsightWorks Ltd. Shanghai, CN	Jan. 2015 – May 2016
	- Advised clients, including L'Oréal & Unilever, on product research and development - Conducted research projects, including questionnaire design, fieldwork, and data	

analyzing

- Analyzed consumer datasets with SQL and Excel to identify areas of improvement, or develop solutions
- Wrote reports for product improvement, marketing strategy, and new product launches

SKILL

Analytics Tools: Python (PyTorch, Tensorflow, Scikit-Learn), STATA, Alteryx, SAS

Visualization: Tableau, Qlik Sense, Python, Power BI

Database: MongoDB, SQL

REFERENCE

Rong Liu, Ph.D.

Associate Professor of Information Systems

School of Business, Stevens Institute of Technology

1 Castle Point Terrace, Hoboken, NJ 07030

Email: rliu20@stevens.edu

Ying Wu, Ph.D.

Associate Professor of Finance

School of Business, Stevens Institute of Technology

1 Castle Point Terrace, Hoboken, NJ 07030

Email: ywu4@stevens.edu

Zhongju(Jhon) Zhang, Ph.D.

Professor of Information Systems

W. P. Carey School of Business, Arizona State University

300 E Lemon St, Tempe, AZ 85287

Email: zhongju.zhang@asu.edu

SHENGYU (HENRY) HUANG

shuang52@stevens.edu | (626) 360-5957

EDUCATION

STEVENS INSTITUTE OF TECHNOLOGY, SCHOOL OF BUSINESS

Doctor of Philosophy in Financial Engineering

GPA: 4.0/4.0

Hoboken, NJ

Expected 05/26

NEW YORK UNIVERSITY, TANDON SCHOOL OF ENGINEERING

Master of Science in Financial Engineering

GPA: 4.0/4.0

New York, NY

09/21 - 05/21

UNIVERSITY OF SOUTHERN CALIFORNIA, VITERBI SCHOOL OF ENGINEERING

Bachelor of Science in Industrial and Systems Engineering, Minor in Business Finance

GPA 3.9/4.0

Los Angeles, CA

08/15 - 05/19

HONORS

- Managing Director - Data Science of the NYU FRE Bulls & Bears Club 09/20 – 05/21
- NYU Tandon Merit-Based Scholarship (Worth \$8,000 Yearly) 08/19
- Vice President of ISE Honor Society Alpha Pi Mu, USC Chapter 06/18
- Best Track Paper for Financial Engineering at IEOM Washington DC Conference 09/18
- Dean's List of USC Viterbi School of Engineering 08/15 - 05/19

COURSEWORK

- Mathematics & Statistics: Linear Algebra, Probability Theory, Mathematical Statistics, Time Series Analysis, Probability Theory, Stochastic Process and Calculus
- Programming: Data Cleaning and Predictive Analysis using R/Python, Database Management in SQL, Classical Machine Learning, Deep Learning
- Finance: Corporate Finance, Financial Analysis & Valuation, Investment, Financial Derivatives, Risk Management, Active Portfolio Management, NLP in Investment Process

TECHNICAL SKILLS

- Languages & Software: R, Python, SQL, Zeppelin, MATLAB, Spark, SAP, Drupal, Tableau
- Demonstrated skills in financial valuation and predictive analysis

RESEARCH & ACADEMIC PROJECTS

NEW YORK UNIVERSITY, New York, NY

Independent Research, Calibration of ADOL Model Using Artificial Neural Network

07/20 -

- Trained an ANN to inversely estimate Heston & ADOL Model parameters from market data.
- Cleaned and prepared artificial data for ANN training.
- Fed true market data to the ANN and optimize Heston model parameters from ANN outputs.

Capstone Project, Deep Learning Based BSDE Solver for Pricing Bermudan Swaption Under LMM

06/20 - 08/20

- Simulated Libor Rate under the Libor Market Model in Python.
- Built a neural-networks-based backward stochastic differential equation (BSDE) solver in Python, TensorFlow for European and Bermudan swaption pricing, and benchmarked against Monte Carlo in accuracy, variance and speed.

Semester Project, FRE 6103 Financial Risk Management

02/20 - 05/20

- Predicted S&P 500's next day return using LSTM and XGBoost.
- Applied long-short strategy on S&P 500 ETFs and outperformed the market.
- Conducted a stress test on strategy performance.

Semester Project, FRE 9733 Big Data in Financial Engineering

02/20 - 05/20

- Applied Spark and Zeppelin Notebook for big data processing tasks and utilized Google Cloud for cloud computing.
- Built models including logistic regression, random forest, ITEM and convolutional neural network models on a precompiled mortgage dataset and predicted default probabilities of each mortgage.
- Optimized models with hyperparameter tuning techniques to improve model performance on unseen data.

Solo Projects, FRE 7773 Machine Learning in Finance

09/19 - 12/19

- Imputed imbalanced datasets using SMOTEENN and applied classical machine learning techniques including decision tree, random forest, PCA, logistic regression and gradient boosting to predict company bankruptcy.
- Predicted next day stock return by building multi-layer neural networks with recurrent, convolutional and dense layers in Python, TensorFlow.

UNIVERSITY OF SOUTHERN CALIFORNIA, Los Angeles, CA

Team Leader, USC Undergrad Financial Engineering Group with Dr. Cesar Acosta

08/17 - 05/18

- Utilized R for mixture-based risk estimates of stocks.
- Presented new model and published paper at IEOM Washington DC Conference.

Group Member, Semester Project, Course FBE 421 Financial Analysis and Valuation

01/18 - 05/18

- Performed market research and SWOT analysis for Netflix.
- Built DCF & Relative Valuation Models and developed Football Field Analysis to predict stock price.

Group Member, Semester Project, Course DSO 435 Enterprise Data Structure

08/17 - 12/17

- Designed Entity Relationship Diagram and Canonical Data Model in MS Visio for USC ASC Club.
- Created and optimized a database using Oracle 11g; Handed over to client for deployment.

WORK EXPERIENCE

NEW YORK UNIVERSITY, New York City, NY

Teaching Assistant, FIN 2203 Corporate Finance, FRE 6073 Introduction to Derivative Securities

09/19 -

- Held 16 office hours weekly and managed the Piazza forum.
- Guided students' research paper and projects on finance topics.
- Guided students on IAQF 2020 competition projects.

DHL E-COMMERCE, Los Angeles, CA

08/18 - 12/18

Operations Intern

- Collected shop floor data and interviewed workers to find bottlenecks in sorting.
- Redesigned the Process Map and drew a Value Stream Map.
- Built an Arena model to validate the new sorting section design.
- Proposed a new shop floor plan with 20% increase in efficiency and presented to senior IE manager.

MAY & COMPANY, Berlin, Germany

06/18 - 08/18

Summer Operations Intern

- Designed and launched a budget and control system to oversee monthly performance.
- Prepared monthly profit and loss analysis and presented to management.
- Streamlined operations by creating templates and defining business best practices.

YUE LENG

Phone: +1 646-504-6266 Email: yleng2@stevens.edu

EDUCATION

Stevens Institute of Technology, School of Business

Hoboken, NJ

Ph.D. in Business Administration

Sep, 2018 - Present

- **GPA: 3.9/4.0**

Tulane University, A.B. Freeman School of Business

New Orleans, LA

Master of Finance

Jun, 2015 - May, 2016

- **GPA: 3.6/4.0; Dean's List 2016**

Shanghai University, School of Economics

Shanghai, China

Bachelor of Economics in Finance

Aug, 2011 - May 2015

- **GPA: 3.7/4.0; Academic Scholarship**

PROJECT & RESEARCH EXPERIENCE

Darwin Fenner Student Managed Fund

New Orleans, LA

Portfolio Analyst

Jan, 2016 - May, 2016

- Managed \$1 million of Tulane's Endowment Fund with 26 selected students.
- Analyzed and evaluated stocks in the S&P 600 Banking and Financial Service Sector
- Designed a stock-screening model to construct a portfolio with annual return of 3.8% and downside beta of 0.9
- Led team to rank top 3 in the TIPS 2016 - Student Portfolio Managers Competition

Freeman Reports

New Orleans, LA

Equity Research Analyst

Jan, 2016 - May, 2016

- Covered Newfield Exploration Company and developed a sell-side analyst report to support investment thesis
- Forecasted profit and cost with sensitivity analysis with Excel Modeling
- Conducted a detailed research on Oil Exploration and Production Industry

Shanghai University

Shanghai, China

Research Assistant

Apr, 2013 - Oct, 2013

- Assisted with research on International Carbon Financial System based on carbon currency, with emphasis on Chicago Climate Exchange.
- **Research Project:** International Carbon Financial System Construction
- **Research Project:** Illusion and Reality of Bitcoins

CAMPUS AND INTERNSHIP

Tulane University	New Orleans, LA
<i>Global Collective Community Advisor</i>	Jul, 2015 - May 2016
Managed residential hall of 150 students and supervised a staff team of three.	
Foresee Assets	Shanghai, China
<i>Investment Intern</i>	Aug, 2014 - Dec, 2014
Institute of Economics Student Union at Shanghai University	Shanghai, China
<i>Vice Minister</i>	Apr, 2013 - Oct, 2014
Bank of Communications Limited	Shanghai, China
<i>Credit Department Intern</i>	Jun, 2014 - Aug, 2014
Apple	Shanghai, China
<i>Campus Representative</i>	Apr, 2013 - Jan, 2014
China Pacific Insurance Company	Shanghai, China
<i>Accounting Intern</i>	Jul, 2013 - Aug, 2013

SKILLS

- CFA Level III Passed
- Data analysis and programming: Eviews, Bloomberg, Stata, Excel Modeling, SQL, Python, Matlab, R, Tableau, and C
- Language: Fluent English, Mandarin Chinese

CERTIFICATES

Managing Big Data with MySQL (Coursera Certificate)	Feb, 2016
Mastering Data Analysis in Excel (Coursera Certificate)	Feb, 2016
Bloomberg Essentials Training Program	Dec, 2015
Business Metrics for Data-Driven Companies (Coursera Certificate)	Nov, 2015
Financial Accounting (Coursera Certificate)	Sep, 2015

ZEQUN LI

zli61@stevens.edu | (917) 863-6213

EDUCATION

Stevens Institute of Technology

Ph.D. in Financial Engineering

New York University Tandon School of Engineering

Master of Science in Financial Engineering

- **Track:** Computational Finance

University of Rhode Island (Dual Degree Program)

Bachelor of Science in Applied Mathematics

Bachelor of Science in Finance

Zhongnan University of Economics and Law (Dual Degree Program)

Bachelor of Science in Finance

Hoboken, NJ

Expected May 2023

Brooklyn, NY

May 2018

Kingston, RI

June 2016

December 2015

Wuhan, China

June 2016

EXPERIENCE

Stevens Institute of Technology

Teaching Assistant

Hoboken, NJ

September 2019-Present

- Assisted with teaching in Intro to Stochastic Calculus for Finance (Fall 2019), Stochastic Calculus for Financial Engineering (Fall 2019), Computational Finance (Spring 2020), Portfolio Theory (Spring 2020)
- Duties included producing solution manuals, grading homework, and holding office hours

Tradeview Ltd

Trading Operation Analyst

Manhattan, NY

September 2018-July 2019

- Developed Python scripts to automate daily operation tasks such as deploying Gmail and Google Drive API to read client's information data from email and attachments and performing compliance checks using Python packages Selenium and BeautifulSoup
- Selected and processed trading data from MySQL database to generate reports
- Identified problems affecting operation records and prices; collaborated with IT to resolve issues

New York University Tandon School of Engineering

Graduate Assistant

Brooklyn, NY

September 2017-May 2018

- Assisted with teaching in Quantitative Method in Finance (Fall 2017), Financial Econometrics (Fall 2017) and Stochastic Calculus (Spring 2018)
- Duties included producing solution manuals, grading homework, and holding office hours

University of Rhode Island

Student Assistant for Algebra

Kingston, RI

September 2015- December 2015

- Assisted the instructor with classroom management and in-class projects
- Held office hours to answer course-related questions

University of Rhode Island

Research Assistant

Kingston, RI

May 2015- December 2015

- Assisted Dr. Golden Dash on his book, Applied Risk Management: Derivatives, Neuroeconomics, and Automated Trading
- Developed profit equations for 27 option spreads in to be included in Chapter 7, "Profit Equation and Break-Even Point"

WuKong Investment Company

Summer Analyst, Equity Research Department

Shenzhen, China

July 2014-September 2014

- Analyzed financial situation of public companies using financial statements and economic data
- Developed financial models and used other analytical tools for stock and portfolio analysis and wrote analysis reports
- Contributed company profiles, industry trends, comparable companies, and presentation slides to morning meetings

ACADEMIC PROJECTS

New York University Tandon School of Engineering

Brooklyn, NY

Master Thesis: *Pairs Trading Incorporate with Market Impact*

June 2017-May 2018

- Used Stochastic control approach to find the optimal trading rate during the dynamic pairs trading with a linear market impact model that maximize the expected utility of investor's terminal wealth
- Proposed a pairs trading model with temporary and permanent market impact and a dynamic optimal trading strategy and developed a Hamilton–Jacobi–Bellman (HJB) partial differential equation by optimal stochastic control
- Solved the non-linear partial differential equation by finite difference explicit splitting method

PROGRAMMING & TECHNICAL SKILLS

Skills: Python, SQL, R, C++, MATLAB, LaTeX

Languages: Proficient in English, Native Mandarin

SIYUAN MA

Cell: (+1) 201 238 3279 ◇ Email: sma13@stevens.edu

Work Address: 1 Castle Point Terrace, HOBOKEN, NJ 07030

EDUCATION

Stevens Institute of Technology

PhD in Finance Candidate

expect to graduate in 2024

Washington University in St. Louis

Master in Finance

2015-2016

Nankai University

Bachelor in Accounting

2010-2014

RESEARCH AGENDA

Arbitrage Asymmetry, Mispricing Gap, and Momentum Prediction, Siyuan Ma , Available at SSRN: <https://ssrn.com/abstract=4138394>, **Job Market Paper**

Abstract: The Mispricing Gap (Mgap) between overpriced winners and underpriced losers is a strong predictor of stock momentum both in-sample and out-of-sample. This predictability remains even when accounting for various state-of-the-art common risk factors and existing predictors. Moreover, it is not limited to a specific time window used for calculating the formation period return and mispricing score. A one standard deviation increase in Mgap boosts next month's momentum returns by 1.02%, which is 88% of the historical 1.16% return, highlighting its significant economic impact. This predictive power seems to stem from market efficiency determined by the dynamics of both sentiment investors and arbitrageurs. (Presented in New Zealand Finance Meeting 2022, Southwestern Finance Association 2023 Annual Meeting, Stevens Institute of Technology Brown Bag Seminar)

Not Every Factor Has Its Momentum, Siyuan Ma and Peixuan Yuan , Working Paper, Manuscript available upon request

Abstract: We adopt both qualitative and quantitative methods to classify factors into two categories: slow-moving factors (SFCs) and fast-moving factors (FFCs). We find that these two types of factors show significant differences in factor momentum up to 16 months, regardless of the classification method we use. Compared to FFCs, SFCs are less likely to remain in the same portfolio when we estimate the transition probability matrix. Because the majority of FFCs are constructed by taking the difference of SFCs, any investor sentiment associated with SFCs also largely disappears when the horizon extends. Therefore, the persistence of sentiment associated with these two types of factors also diverges significantly. Our results are robust across different sets of factor returns and different categorizing methods.

Horizon Pricing: Is It There?, Siyuan Ma , Working Paper, Manuscript available upon request

Abstract: Different anomaly factors dissipate at different speeds. Since asset returns have substantial commonality, the absence of near-arbitrage opportunities implies that factors attenuating at a slower speed covary more with the stochastic discount factor. However, I find that this is not the case. Both short and long-horizon factors show almost the same explanatory power in explaining factor returns irrespective of the return horizons.

Momentum and Reversal: The Impact of Arbitrage Timing, Siyuan Ma , Work-in-progress Paper

Abstract: Momentum generated by sentiment investors reverses in the long term because arbitrageurs

need time to identify and correct mispriced stocks. Evidence shows that momentum and long-term reversal are not separate anomalies but are driven by different investors at different times. Both underreaction and overreaction contribute to momentum, but the correction of mispricing caused by persistent overreaction takes longer due to arbitrage asymmetry.

OTHER PUBLICATIONS

Parametrically Computing Efficient Frontiers and Reanalyzing Efficiency-diversification Discrepancies and Naive Diversification, Siyuan Ma, Yue Qi and Zhang Yushu , *INFOR: Information Systems and Operational Research*(2019): 1-24.

TEACHING EXPERIENCE

Instructor, BIA 580

Currently teaching

Course description: This 3-credit course covers the major mathematical and statistical concepts that underly the field of business analytics. It does so at an elementary level but at a level sufficient to prepare students for success in the more advanced topics covered in the remainder of the BI&A curriculum. Each mathematical and statistical concept is illustrated through one or more business applications that bridge the gap between theory and practice and demonstrate how analytics is applied in practice.

Instructor, MGT 411, 412 (Research Track)

Rating:4.11/5.00

Course description: Senior Design is a unique, two-course experience – mgt411 in the fall and mgt412 in the spring – that involves students working in teams on a real-world project related to one of three tracks (research, business consulting, or entrepreneurship).

Teaching Assistant, FIN 623

Course description: This course provides students with a rigorous introduction to the fundamental principles of finance. The primary concepts covered include the time value of money, principles of valuation, and risk.

INDUSTRY EXPERIENCE

Analyst Intern, Huarong Securities

Jul 2014 - Jan 2015

Investment Bank Department

Analyst Intern, Morgan Stanley

Jul 2013 - Aug 2013

Investment Bank Department

Analyst Intern, China International Capital Corporation

Jan 2014 - March 2014

Investment Bank Department

PROFESSIONAL SERVICE

Reviewer

Emerging Market Review (ABS-2 Journal)

SKILLS

Programming Languages

R, Python

Languages

English, Chinese

Database

CRSP, COMPUSTAT, Lipper TASS

REFERENCES

Dr. Ying Wu (Committee Chair)

Associate Professor of Finance

School of Business

Stevens Institute of Technology

Email: ywu4@stevens.edu

Dr. Suman Banerjee (Department Chair and Committee Member)

Associate Professor of Finance

School of Business

Stevens Institute of Technology

Email: sbanerj2@stevens.edu

Dr. Anand Goel (Committee Member)

Associate Professor of Finance

School of Business

Stevens Institute of Technology

Email: agoel2@stevens.edu

🐦: @Jiali_Maggie_Qi
✉: jq16@stevens.edu

School of Business, Stevens Institute of Technology
Hoboken, New Jersey, 07030

Jiali Qi

I investigate knowledge collaboration in online communities, with particular emphasis on structures, practices, and processes of artifacts design. I applied qualitative (e.g., interview, observation) and quantitative (e.g., survey) methods to understand community members' mental models and behavioral patterns.

Education

2018-2024
(Expected)

Ph.D. in Business Administration, Information Systems and Analytics Track
School of Business, Stevens Institute of Technology, NJ, USA

2015-2017

M.S. in Global Finance
Fordham University, NY, USA

2010-2014

B.A. in Economics, International Cultural Trade
Beijing International Studies University, Beijing, China

Publications & Presentations

WORKING PAPER

2023

Jiali Qi and Aron Lindberg. Digital Co-creation – How are the Efforts of Firm and User Integrated? A Knowledge Perspective.
Jiali Qi, Di Zhu and Aron Lindberg. Understanding How Does the Cognition of Agentic Artifacts among Firm and Community Members Co-evolve.

2019

Jiali Qi and Aron Lindberg. Understanding the Structure and Diffusion of Pseudo-knowledge in Social Media: A Practice Perspective.

PRESENTATIONS & WORKSHOPS

2021

Jiali Qi and Aron Lindberg. (2021). Understanding the Reactive Practices of Third-party Developers. Paper presented at the the 81st Annual Meeting of the Academy of Management - AOM'21.

2019

Ji Sui, **Jiali Qi** and Shuang Wu. (2019). Predicting Consumer Probability of Default: A Comparison of Four Models. Poster presented at School of Business Student Research Showcase at Stevens Institute of Technology.

BOOK CHAPTERS

2013

Jiali Qi (2013). A Report of Beijing and Foreign Copyright Trade. *Research Report of Beijing International Cultural Trade 2012 (ISBN7510308984)* - **pp 87-102**.

Jiali Qi (2013). A Case Study of China and Foreign Copyright Trade. *Study on the Selected Chinese Cases of Cultural Trade (ISBN7510309980)* - **pp 195-205**.

Research Experience

2018.8-present

Research Assistant, Stevens Institute of Technology

- Collaborated with undergraduate Pinnacle Scholars over three summers, providing guidance and mentorship in their research endeavors, fostering their academic growth and cultivating their research skills.
- Assisted Dr. Aron Lindberg (PI) in qualitative data collection. Conducted thorough transcriptions of key informant interviews and in-depth interviews.

2014.7-2014.9

Research Intern, Credit Reference Center, People's Bank of China

- Supported the research on credit reporting regulations through extensive literature reviews, acquiring an in-depth understanding of the field's current state of knowledge and identifying research gaps.
- Authored comprehensive reports synthesizing diverse data sources, effectively conveying key findings and their implications.

2012.9-2013.6

Research Assistant, National Institute of Cultural Development (NICD)

- Contributed to the successful organization and preparation of the 7th and 8th International Service Trade Forums, actively participating in logistical arrangements, coordination of sessions, and ensuring smooth execution of the events.
 - Participated in the Strategic Reform of State-owned Academy of Performance Art research project, supported by The National Social Science Fund of China (Grant No. 11BG072). Responsibilities included conducting extensive literature reviews, gathering field data through participant observation and conducting in-depth interviews.
 - Demonstrated strong analytical skills by writing detailed analytic memos, effectively summarizing key insights from the collected data.
 - Actively contributed to the interpretation of research findings, collaborating with the research team to derive meaningful conclusions and implications.
-

Teaching Experience

2023

Instructor

- Acted as an instructor for two recitation sections of the undergraduate course **BT353R-Project Management**, delivering high-quality instruction that resulted in consistently positive student

feedback. Received a 5 out of 5 rating and received commendable evaluations from students.

2020-2022

Teaching Assistant

- Worked with Dr. Foad Mahdavi Pajouh on course development and grading for an MBA course: **MGT657–Operations Management**.
- Worked with Dr. Aron Lindberg on grading for a graduate-level management information system course: **MIS699–Digital Innovation**.
- Worked with Dr. Gaurav Sabnis to support class discussion, provide demonstration, and facilitate Q&A for three undergraduate-level business & technology courses: **BT417–Marketing Analytics & Research**, **BT435–Social Media & Network Analysis** and **BT403–Marketing Strategy in Digital World**, and an MBA course **BIA672–Marketing Analytics**.

Fellowships

2018-2024

Stevens Provost Doctoral Fellowship

2023

Swedish Center for Digital Innovation (SCDI) Fellowship

Frontiers in digital innovation research course, (off- and on-site at Riksgränsen, Sweden).

Services

CONFERENCE REVIEWER

2022

ICIS 2022, HICSS 2022

2021

ICIS 2021

2020

ICIS 2020, HICSS 2020, AMCIS 2020

2019

ICIS 2019

Student Activities

2022

Cornell University Winter Writing Boot Camp 2022, (Online).

2022

iJOBS Workshop 2022: SciPhD Leadership and Business Skills for Scientists, (Online).

2019

Stevens Institute of Technology Teaching at the College Level program, Hoboken.

2015-2016

Fordham University Chinese Students & Scholar Association, New York.

2013

International Youth Leadership Summit 2013, Hong Kong.

2012

Global Volunteer Program at Faith With Action Children's Organization (FWACO), Nairobi.

Memberships

2019-present

Association for Information Systems (AIS)

2021-present

Academy of Management (AOM)

Last updated: July 17, 2023

AGATHE SADEGHI

65 Webster Avenue, Jersey City, New Jersey, 07307

646-994-0494 ◊ asadeghi@stevens.edu ◊ linkedin.com/in/agathe-sadeghi

EDUCATION

Stevens Institute of Technology, Hoboken, NJ

Expected May 2024

Doctor of Philosophy in Financial Engineering

GPA: 3.92/4.00

- Awarded a full tuition waiver and a full scholarship
- Passed all three parts of Comprehensive exam, theoretical, practical and subject, in first try with high scores
- Relevant Coursework: Probability, Statistics, Dynamic Programming, Time Series Analysis, Machine Learning in Finance, Fin-tech

Stevens Institute of Technology, Hoboken, NJ

Dec 2020

Master of Science in Financial Engineering

GPA: 3.92/4.00

- Awarded the competitive Provost's Master Fellowship of \$15,000, and the Jérôme Lohez 9/11 Scholarship
- Relevant Coursework: Pricing and Hedging, Advanced Derivatives, Stochastic Calculus, Computational Finance, Risk Management, Portfolio Theory, Financial Data Science, Investment Management

Iran University of Science and Technology, Tehran, Iran

Sep 2018

Bachelor of Science in Industrial Engineering

GPA: 3.80/4.00

- Graduated in top 2% of 160 students in Industrial Engineering
- Relevant Coursework: Statistics, Numerical Analysis, Econometrics, Microeconomics, Macroeconomics

SKILLS

- R, Python, SQL, Bloomberg, Eviews, Microsoft Excel, Microsoft Word, Microsoft Powerpoint, LaTeX
- Problem-solving, Leadership, Team Work, Communication, Time Management

ACADEMIC RESEARCH

PhD Research

Jan 2021 - Present

- Constructed a temporal network with credit default swap data from Markit for 2010-2020
- Analyzed joint and conditional eigenvector trajectories for different layer coupling strengths
- Identified the top tickers according to time-average centrality and first-order mover scores

Predicting Corporate Bond Yield Term Structure

June 2020 - Dec 2020

- Presenting in Northeast Business and Economics Association Conference held in Tropicana Resort and Casino, Atlantic City, New Jersey on November 4-6, 2021
- Scheduled for the paper to be published in the conference proceedings in Journal of Business and Economic Studies
- Developed univariate and multivariate linear regression and Random Forest (RF and MRF) models to investigate the effect of forward rates and forward spreads on the corporate bond yield
- Forecast using a rolling window with different lags and maturities and compared the performance of models by MAE measure
- Concluded a better performance with ARIMAX model when using forward rates and RF model when using forward spreads in yield prediction

EXPERIENCE

Stevens Institute of Technology, Hoboken, NJ

Feb 2021 - Present

Instructor

- Teaching Bloomberg and Thomson Reuters course to graduate and senior students
- Instructing Bloomberg API as R, Python and Excel and how to query data from Bloomberg, Capital IQ and WRDS

Teaching assistant

Sep 2020 - May 2021

- Assisting professors and graduate students for Portfolio Theory and Applications, Statistical Learning and Market Microstructure courses

Hanlon Financial Systems Laboratory, Hoboken, NJ

Oct 2019 - Sep 2020

Research and Data Science lab assistant

- Integrated and built a new database using Python, SQL and Thomson Reuters News Analytics data
- Chose and posted top projects of Financial Engineering students on the lab's website

"Pars-Khodro" Auto Manufacturing Company, Tehran, Iran

Nov 2018 - April 2019

Stock Affairs and Cost Analysis Intern

- Developed 20 page report on company's stock price volatility due to import sanctions, domestic manufacturing and customer dissatisfaction and presented to the Strategic Planning Committee for future decisions
- Analyzed the cost model in detail in collaboration with four divisions under the supervision of the CFO to integrate the cost reporting based on division breakdown

ZHIYUAN YAO

444 WASHINGTON BLVD, JERSEY CITY, NJ 07310
+1-551-225-9436 ◊ yaozhiyuan941225@gmail.com

PROFILE

I am currently a Ph.D. student in Financial Engineering and apply for the position of instructor of FE520.

- Competent and skilled programmer in Python, C++, R, SQL, Matlab.
- Excellent ability in Windows and Linux.
- Extensive experience translating theoretical knowledge onto practical, real-world projects.
- Wide-ranging research experience; proven ability to work within teams to cooperatively achieve goals.

EDUCATION

- Expected 05/2023* **STEVENS INSTITUTE OF TECHNOLOGY, HOBOKEN, NJ**
Ph.D. in Financial Engineering;
GPA: 4.0/4.0
- 09/2017 - 05/2019* **STEVENS INSTITUTE OF TECHNOLOGY, HOBOKEN, NJ**
Master of Science in Financial Engineering;
GPA: 4.0/4.0
- 08/2013 - 06/2017* **NANKAI UNIVERSITY, TIANJIN, CHINA**
Bachelor of Science in Mathematics and Applied Mathematics;
GPA: 82/100; Rank: 35/88

EXPERIENCE

- 09/2017 - Present* **RESEARCH ASSISTANT & INSTRUCTOR HANLON FINANCIAL SYSTEM LAB , HOBOKEN, NJ**
- Research on deep reinforcement learning (RL).
 - Developing ROS-based distributed simulation system for RL.
 - Implementing RL algorithms (PPO, Q-Plan, etc.)
 - Controlling robotic agents across internet by RL models.
 - Instructor for *FE520 Introduction to Python for Financial Applications*
- 05/2018 - Present* **GRADUATE RESEARCHER STEVENS INSTITUTE OF TECHNOLOGY & CLEARPOOL GROUP , HOBOKEN, NJ**
- Research on dark pool liquidity detection.
 - Re-sampling data from imbalanced data.
 - Selecting features from categorical and continuous data (Target encoding, Mutual information).
 - Using ensemble machine learning techniques (Stacking, Boosting) to predict liquidity.
 - Evaluating liquidity signals generated by last order in different venues.
- 06/2016 - 11/2017* **INTERN AND QUANTITATIVE RESEARCH CONSULTANT WORLDQUANT LLC , BEIJING, CHINA**
- Research on technical alpha strategies for stocks with top liquidity in U.S. stock market.
 - Developing alpha strategies based on fundamental analysis and analytical data.
 - Applying machine learning algorithms to alpha strategy development on web based strategy back-testing system.

SELECTED PROJECTS

- 09/2017 - Present* **ROBOTICS APPLICATIONS PLATFORM INTEGRATED DEVELOPMENT**

- Create an intelligent system which can control both simulated and physical robot.
- Allow user to control agents across internet and to stream camera input from agent to control side.
- It is compatible with ROS interface and is a perfect simulation system for testing reinforcement learning algorithms on vanilla and partial-observed locomotion tasks.
- Some main-stream RL algorithms have been implemented and tested on our system.

09/2018 - Present **10-K FORM FRAUD DETECTION BY TEXT ANALYSIS AND DEEP LEARNING**

- Evaluate the probability that a company may fraud on its 10-k form by analyzing 10-k text description.
- Give a list of words/phrases that implies fraud statement.
- Mark paragraphs that are highly likely to be fraud by attention model.

03/2018 - Present **DARK POOL LIQUIDITY DETECTION:** [\[PDF\]](#)

- Used re-sampling technique to generate eective data from highly unbalanced data.
- Selected features from categorical and continuous data (Target encoding, Mutual information).
- Used ensemble machine learning techniques (Stacking, Boosting) to predict liquidity.
- Evaluated liquidity signals generated by last order in diherent venues.
- Used reinforcement learning approach to detect transition pattern of liquidity.

11/2016 - 05/2017 **QUANTITATIVE INVESTMENT WITH MACHINE LEARNING:** [\[PDF in Chinese\]](#)

- Created Multi-factors Stock Selection Model based on Random Forest.
- Selected features from P&V, fundamental, analytical fields by RankIC and t-test.
- Dynamically trained model and forecasting in Chinese stock market.

10/2016 - 01/2017 **APPLICATION AND MODIFICATION OF BP NEURAL NETWORKS**

- Solved divergence and convergence in local minima issues of multi hidden layers neural network by adding momentum and penalty to loss function.
- Selected learning rate automatically to speed up training process by optimization techniques like Armijo rule.

01/2017 **INTERDISCIPLINARY CONTEST IN MODELING:** [\[PDF\]](#)

- Analyzed the long and unpredictable security checking time problem in U.S. airport with both Queuing Model ($M/E_k/1$) and Monte-Carlo simulation.
- Gave practical suggestions about dynamic operation strategy on airport security checking.

02/2016 - 05/2016 **ASSESSMENT ON PSEUDO-RANDOM NUMBER GENERATORS:** [\[PDF in Chinese\]](#)

- Implemented and statistically analyzed the performance and randomness of major families of uniform-distributed generators.

02/2016 **WATER SUPPLY ABILITY ASSESSMENT MODEL:** [\[PDF\]](#)

- Selected features by TOPSIS method to find factors that aect water supply ability from thousands of factors.
- Predicted the change of such ability by Grey Prediction.

09/2015 **IDENTIFICATION OF GEOGRAPHICAL LOCATION FROM SUN SHADOW**

- Identified a location by a sequence data of shadow using a hybrid model of sun altitude model and solid geometry.
- Found the global and local optimal parameters by gradient descent.

AWARDS

05/2019 **OUTSTANDING ACADEMIC ACHIEVEMENT AWARD, STEVENS INSTITUTE OF TECHNOLOGY**

08/2017 **MASTER'S FELLOWSHIP AWARD, STEVENS INSTITUTE OF TECHNOLOGY**

05/2017 **MERIT STUDENT & STUDENT CADRE AWARD, NANKAI UNIVERSITY**

04/2017 **MERITORIOUS WINNER, INTERDISCIPLINARY CONTEST IN MODELING, COMAP**

<i>05/2016</i>	GOLD MEDAL , WORLDQUANT CHALLENGE, WORLDQUANT LLC
<i>04/2016</i>	HONORABLE MENTION , INTERDISCIPLINARY CONTEST IN MODELING, COMAP
<i>10/2015</i>	1ST PRIZE , CHINA UNDERGRADUATE MATHEMATICAL CONTEST IN MODELING, AWARDED BY CSIAM
<i>12/2014</i>	OUTSTANDING CHAIRMAN , STUDENT UNION, NANKAI UNIVERSITY
<i>05/2014</i>	EXCELLENT TEENAGER IN SPORT , TIANJIN MUNICIPAL EDUCATION COMMISSION
<i>11/2013</i>	3RD-CLASS UNIVERSITY SCHOLARSHIP , NANKAI UNIVERSITY

Mingsong Ye

(551) 247-7721 • mye2@stevens.edu

School of Business, Stevens Institute of Technology
1 Castle Point Terrace, Hoboken, New Jersey, NJ, 07307

EDUCATION

Stevens Institute of Technology, New Jersey, NJ

2018 – Present

Ph.D. Candidate in Data Science, GPA: 3.6/4.0

Dissertation: ML/AI application to Optimization and Time Series Forecasting

Advisors: Dr. Edward Stohr

Relevant Courses: Statistical Learning, Causality Inference, Algorithm Complexity, Data Structure & Algorithms, Deep Learning, Web Mining

Stevens Institute of Technology, New Jersey, NJ

2016 – 2018

M.S., Optimization and Stochastic System, GPA: 4.0/4.0

Relevant Courses: Real Analysis, Probability, Stochastic Process, Mathematical Analysis, Multivariate Analysis, Convex Optimization, Stochastic Programming

Harbin Institute of Technology, Harbin, Heilongjiang

2011 – 2015

B.S., Applied Math, GPA: 3.38/4.0

Relevant Courses: Mathematic Analysis I & II, Statistics, Topology, Linear Algebra, Linear Regression, Group Theory, Database System, Data Structure, Elementary Probability and Stochastic Process

WORK EXPERIENCE

Stevens Institute of Technology, New Jersey, NJ

2019 – Present

Instructor, Research and Teaching Assistant, School of Business

- ◆ Research on ML/AI application to integer programming and mixed-integer programming
- ◆ Research on Deep learning application to financial time series forecasting
- ◆ Give lectures and mentor graduate students

CODING EXPERIENCE

Python

4 years

- ◆ Web mining using BeautifulSoup4
- ◆ Time series analysis using Arch and NumPy
- ◆ Deep Learning embedding time series data using PyTorch, PytorchLighting, and Scikit-learn
- ◆ Data processes using Pandas, SQLAlchemy
- ◆ Large optimization problem solver using CVXPY and Gurobi python API.
- ◆ Visualization using Seaborn and Matplotlib
- ◆ Prompt engineering using OpenAI API

Database and cloud server

2 years

- ◆ PostgreSQL, course instruction
- ◆ Google cloud API and AWS API to host personal server for numeric experiments

Other Experience on scientific computing & statistics

- ◆ MATLAB
- ◆ R
- ◆ Stata
- ◆ Julia

RESEARCH

Conference

1. Dentcheva, D., Ye, M., & Yi Y. (2022). Risk-averse Sequential Decision Problem with Time-consistent Stochastic Dominance Constraint. *IEEE conference on decision and control (CDC)*
2. Ye, M., (2023). Portfolio Diversification based on Stochastic Dominance and Relaxed Comonotonicity. *International Conference on Stochastic Programming (ICSP)*.
3. Moazeni S., Ye, M. (2019). Data-driven Sensitive Analysis for Robust Optimization. *Modeling and Optimization: Theory and Applications (MOPTA)*

Master Thesis

Ye, M. (2018). Conditional stochastic dominance for the extended two-stage stochastic optimization problems, M. Sc., Stevens Institute of Technology, Mathematic Department

Research in Progress

Deep Learning uncertainty quantification on financial time series data, waiting for submission.

Other Involved Research

1. “Stock Movement Prediction with ChatGPT assisted Network Graph”
2. “Machine Learning Approach to Generate Shadow Price for Column Generation Algorithm”

TEACHING EXPERIENCE

Instructor (Stevens Institute of Technology)

BIA632: Database Management (M.S.), Fall 2022
BIA632: Database Management (M.S.), Spring 2023

Guest Lecturer and Teaching Assistant (Stevens Institute of Technology)

BIA650: Optimization and Process Analytics (M.S.), 2021 Fall – 2022 Spring
MA660: Probability Theory (M.S.), 2017 Fall

Language

Languages Chinese (native), English (full proficiency)

REFERENCES

Dr. Edward Stohr

Professor
Stevens Institute of Technology
Phone: (201) 993-5592
Email: estohr@stevens.edu

Dr. Lei Nico Zheng

Assistant Professor
University of Massachusetts Boston
Phone: (347) 227-5883
Email: lzheng9@stevens.edu

Dr. Yang Lin

AI Risk Research Scientist Munich-Re HSB
Phone: (917) 930-7106
Email: linyangnyc@gmail.com

Dr. James Morton

Tenure-track Investigator NICHD
Phone: (513) 907-9853
Email: jamietmorton@gmail.com

Yangyang (Shirley) Yu

Apt. 501, 675 Monmouth St,
Jersey City, NJ, United States, 07310

+1 201-710-0982

ShirleyYu0915@outlook.com

Education:

Ph.D. in Data Science, School of Business & Computer Science, Stevens Institute of Technology (Hoboken, NJ) **GPA: 3.93** Present

M.S. in Applied Statistics, College of Arts and Sciences, Syracuse University (Syracuse, NY) **GPA: 3.88** May 2014

B. S. in Applied Mathematics, College of Mathematics and Science, Xiamen University (Xiamen, China) July 2011

Professional Experience:

Research Assistant, Department of Information System, Stevens Institute of Technology (Hoboken, NJ) Aug. 2019-Present

- The current research focus is on the integration of deep learning, active learning, Bayesian statistics, multi-modal learning, and optimization techniques with an emphasis on their applications in human vision.

Data Scientist Intern, Jefferies Financial Group (New York, NY) May. 2021-Aug.2021

- Conducted research to predict Jefferies customers' trading decisions on bonds by leveraging multi-modal information.
- Developed deep learning features for input data of customers, bonds, and historical trading time.
- Constructed a deep fusion tensor factorization model that incorporates deep features from different modalities as side information to predict customers' future trading behaviors.
- Achieved a significant improvement in model accuracy of 3.26% over the previous version in an online test.

Senior Data Analyst, Business Intelligence, Analytics and Data Science, ByteDance (Beijing, China) Oct. 2017-Apr. 2018

- Collaborated with algorithm engineers to design model that quantifies the long-term benefits of vloggers to the TikTok app.
- Optimized the ranking model for popular videos by identifying new influential factors and adjusting model parameters.
- Monitored and evaluated the performance of the ranking model through online testing and achieved a 0.06% improvement in leveraging time of use and a 0.03% increase in daily active users (DAU).

Data Analyst, Marketing Analytics, Personal Capital (San Carlos, CA) Oct. 2015-Aug. 2017

- Cooperated with cross-functional teams to deliver high-quality data analysis solutions that inform strategic decision-making.
- Worked with the marketing team to establish business metrics and conducted quantitative analysis to evaluate the performance of multi-channel marketing campaigns, which were used to inform marketing campaign budget allocation.
- Directly reported to the CMO and prepared dynamic data reports and visualization dashboards using Tableau and Google Analytics to demonstrate KPI performance over time and drive impact and improvement across the company.
- Developed data models that utilized statistical methodology and machine learning techniques to analyze customer behavior and product features, providing valuable data insights to inform product development decisions

Data Intelligence Engineer, BI and Analytics, Dell-EMC (Santa Clara, CA) Jan. 2015-Sept. 2015

- Conducted data mining across unstructured data sources using PySpark to identify data gaps and resolve client issues.
- Applied business logic to data processing and modeling using Alteryx to produce efficient data reports for senior leadership.

Data Scientist Intern, CTO Office & Advanced Development Group, Dell-EMC(Santa Clara, CA) May 2014-Dec. 2014

- Investigated a pattern recognition database system with a capacity of 45 TB to identify product operating conditions and bugs.
- Implemented predictive models and visualization techniques to evaluate the performance of data compression systems

Academic Projects:

Primary Advisor: Prof. Jordan William Suchow

First Impression Prediction on Human Faces using Deep Bayesian Tensor Fusion model and Active Learning Present

- The objective was to establish a quantitative model framework for interpreting the alignment between people's first impression of human faces and machine-generated face representations, and to train the model using active learning to improve alignment efficiently under constrained budgets.
- Implemented the StyleGAN encoder to generate synthetic face images and created deep face features.
- Developed the first impression predictive model using the Bayesian deep tensor fusion model to fuse three-way multi-modal deep features and attention terms that explain interactions between modalities.
- Expanded the application of this framework in the context of limited budgets, achieving satisfying predictions with an optimized trade-off of performance and cost using active learning.
- The tensor fusion model, combined with the active learning strategy, delivered highly precise predicted impression ratings even for new objects compared to a baseline model with substantially less training data.
- Established a budget-friendly framework for modeling social behavioral experimental data containing multi-modal information.

Decentralized Algorithm Design and Deployment for Computational System Optimization Oct. 2019-Dec. 2019

- The goal was to apply a decentralized method to the lesion classification task of 2 TB diabetes images.
- Utilized U-Net for this task and employed gradient descent on each of the 7 servers to optimize model parameters separately.
- Designed a reasonable distributed topological server infrastructure and extracted the weighting matrix from server deployment to summarize and update the averaged gradient for U-Net..
- Achieved a 2.6 times reduction in overall computation time at convergence, while maintaining the same training loss.

Streaming Data Processing and Analysis on MTA Subway System

Nov. 2019-Dec. 2019

- The objective was to develop a real-time analytics system for planning subway trips in New York City using MTA data feeds.
- Conducted ETL for the data stream through Apache Kafka and Spark Streaming, and merged it with static subway station datasets.
- Extracted upcoming schedule, and iteration changes with the scheduler from subway feeds to meet customized user needs.
- Designed user-friendly dynamic visualizations for the MTA data feed to deliver timely travel information in the most efficient way.
- Achieved a significant improvement in the delivery speed and flexibility of analytics results compared to traditional data processing.

Industrial Projects:

Data Modeling Project on Marketing Precisely Targeting and Customer Segmentation (San Carlos, CA)

Dec. 2016-Feb. 2017

- The aim was to rank the relevance of personal living and financial condition factors in predicting the likelihood of individuals becoming Personal Capital clients using the Gini Value feature selection method.
- Applied a Random Forest model to the feature set and identified the highest possible factor combination that drive client conversion.
- Refined the model outputs using a tree plot and majority voting, and presented the results as data visualizations and a rule set.
- Employed the insights from the model to precisely direct online and offline marketing campaigns, resulting in a 3.8% increase in the number of clients.

Machine Learning Project on Offline Marketing Channel Information Mapping (San Carlos, CA)

Mar. 2014-May 2017

- Developed a more accurate solution for matching internal client information with direct mail list information in offline channels.
- Expanded the relevant factors considered beyond personal information to include geographic data, and applied a fuzzy matching method to improve the matching accuracy.
- Developed a K-NN supervised learning model to map mail list information to the right converted clients.
- Increased the percentage of internal clients mapped with external direct mail list information by 34%.
- Made the performance of this offline channel trackable and comparable with online channels.

Publications:

Yu, Y. & Suchow, J. W. (under review). Actively learning a Bayesian matrix fusion model with deep side information. INFORMS 2023.

Yu, Y. & Suchow, J. W. (in press). Deep tensor factorization models of first impressions. SVRHM 2022 workshop at NeurIPS 2022.

Yu, Y. & Suchow, J. W. (under review). Actively learning a Bayesian matrix fusion model with deep side information. NeurIPS 2023.

Yu, Y. & Suchow, J. W. (under review). Active Deep Bayesian Matrix Factorization Improves Human Perceptual Prediction. CogSci2023

Talks:

Deep modular co-attention networks for online product matching.

Presented at NEDSI 2022 in Newark, NJ

Deep tensor factorization models of first impressions.

Presented at SVRHM 2022 workshop at NeurIPS 2022

Certificates and Rewards:

Provost Fellowship Funded by Graduate School of SIT

2019 – 2023

Data Science PhD Fellowships Funded by Jefferies (Jefferies Financial Group)

2021 – 2022

SAS Certified Base Programmer for SAS 9

Oct. 2013

Technical Skills:

Programming: Python, C++, Julia, R, SQL, SAS, HTML5, PHP, CSS

Platform: TensorFlow, PyTorch, Tensorflow, Numpyro

Application Skills: Tableau, PySpark, SPARK, HIVE, MapReduce, Google Analytics, MYSQL, Amazon Redshift, PostgreSQL, MS Visio, MS Access, MS Office, SCA, Weka, RapidMiner, Alteryx, Minitab, SPSS

BeiChen Zhang

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837 Jersey ave. , Jersey City, NJ, 07310

EDUCATION

Stevens Institute of Technology

Major: Master of Financial Engineering

GPA: 3.9/4

Sep 2018- May 2020

Major: Ph.D. in Financial Engineering

GPA: 3.8/4

Sep 2020 – now

Miami University

Double Major: Bachelor of Mathematics and Statistics (Bachelor of Science)

Bachelor of Economics (Bachelor of Arts)

Minor: Actuarial Science (Bachelor of Science)

GPA: 3.0/4

Sep 2014- May 2018

Awards and Scholarships: The first prize for WISE math match (2014 March); The second prize for WISE physical match two times (2014 March); The second prize for WISE math match (2014 may); Name to Dean's List at Miami University (2017 may)

Related courses: FE610, FE620, FE621, FE622, FE630, FE535, FE570, FE670, FE680, FE900

- **Research Projects:** tournament Scheduling, responsible for research, creation, presentation
Financial risk analysis, Cryptocurrency market analysis
 - **Work experience:** Zhejiang Post and Telecommunication Changchun Branch (China)
 - **Main responsibility:**
 - ◆ 1. Responsible for the daily production report, the company owned vehicle usage report, and the daily necessities purchasing work
 - ◆ 2. Responsible for information data, reports, income and expenditure statistics,
 - ◆ 3. Business comprehensive report
 - **Economic Teacher Assistant:** holding office hours once a week, answering questions outside of classroom
 - **Financial Engineering Teacher Assistant:** core course FE610, FE620, FE630, FE621, FA550, FA590...
-
- *Extra curriculum activities*
 - **Student Christian Fellowship _TEAM (2020 – now)**
 - **Activity content: Alpha Phi Omega (2016 August – 2018),**
Main responsibility: Serving the community campus and nation wise at a limit number of hour
 - **Activity content: economic community (2014 August – 2018)**
Main responsibility: Meeting weekly, discussing interesting topic in economics, careers in economics. Receive speeches from members of related company, gain knowledge of the career
 - **Activity content: actuarial community (2015 February)**
Main responsibility: communicating about professional knowledge and participating presentation
 - **Give speech on Economics International Student Panel, Miami University Nov. 2017**

SKILL

Language skills: GRE: V: 153 Q: 165 A: 3.0 overall: 321

IT skills: Python, R, excel, JAVA, statistic, STATA

Other certificates: saxophone certificate, taekwondo certificate

Hobbies: saxophone, boxing, yoga, hiking, tennis, swimming