CIFER 2024 CONFERENCE

AGENDA

Location: Stevens Institute of Technology, University Center, Hoboken, New Jersey 07030
Date: Tuesday and Wednesday, October 22-23, 2024
Time: 8:00am – 5:00pm

Tuesday October 22, 2024

8:00 – 8:45am – Registration, Breakfast, Networking (Gallery Room)
8:45 – 9:00am – Opening Remarks (Gallery Room)
9:00 – 10:00am – Keynote Address – Agostino Capponi (Professor, Columbia University) (Gallery Room)
10:00 – 10:30am – Coffee Break (Gallery Room)
10:30 – 12:10pm – Parallel Sessions 1 (Techflex + Gallery Room)
12:10 – 1:30pm – LUNCH (Techflex)
1:30 – 3:10pm – Parallel Sessions 2 (Techflex + Gallery Room)
3:10 – 3:30pm – Coffee Break (Gallery Room)
3:30 – 4:30pm – Keynote Address - Shanker Ramamurthy (MP, Global Banking and Financial Markets, IBM) (Gallery Room)
4:30 – 6:30pm – BREAK
6:30 – 6:45pm – Boarding for NYC Dinner Cruise (14th Street Pier in Hoboken)
7:00 – 10:00pm – NYC Dinner Cruise (will travel around southward and around the Financial District of Manhattan)

10:45 – 12:25pm – Parallel Sessions 1

Large Language Models – Session Chair - Zachary Feinstein			
Time	**Title**	**Authors**	**Room**
10:30 – 10:55am	Company Similarity using Large Language Models	Dhruv Desai, Dhagash Mehta, Dimitrios Vamvourellis, Snigdh Bhagat, Mate Toth and Stefano Pasquali	Tech Flex Room A
10:55 – 11:20am	Large Language Model in Financial Regulatory Interpretation	Zhiyu Cao and **Zachary Feinstein**	Tech Flex Room A
11:20 – 11:45am	Financial Risk Disclosure Return Premium: A Topic Modeling Approach	**Beichen Zhang** and Steve Yang	Tech Flex Room A
11:45 – 12:10pm	LLM-Based Code Generation for Querying Temporal Tabular Financial Data	Mohamed Lashuel, Gulrukh Kurdistan, **Aaron Green**, John Erickson, Oshani Seneviratne and Kristin Bennett	Tech Flex Room A

Risks – Session Chair - Takanobu Mizuta			
Time	**Title**	**Authors**	**Room**
10:30 – 10:55am	Analyzing Network Dynamics: The contagion effects of SVB collapse on the US Tech Industry	**Fan Wu**, Anqi Liu, Jing Chen and Yuhua Li	Tech Flex Room B
10:55 – 11:20am	An interaction between a leveraged ETF and futures in a crash investigated by an agent-based model	**Takanobu Mizuta** and Isao Yagi	Tech Flex Room B
11:20 – 11:45am	Attribution Methods in Asset Pricing: Do They Account for Risk?	**Dangxing Chen** and Yuan Gao	Tech Flex Room B
11:45 – 12:10pm	Market Instability from Option Flows	Amir Alamir, Alexander Becker and Ivan Julio	Tech Flex Room B

Optimization – Session Chair - Robert Golan			
Time	**Title**	**Authors**	**Room**
10:30 – 10:55am	Asset liability management under sequential stochastic dominance constraints	Giorgio Consigli, Darinka Dentcheva, Francesca Maggioni and Giovanni Micheli	Tech Flex Room C
10:55 – 11:20am	Leveraging Stochastic Optimization in Asset Allocation for Enhanced Index Tracking	**Yuanyuan Liu** and Yongxin Yang	Tech Flex Room C
11:20 – 11:45am	Mean-Variance Efficient Reinforcement Learning	**Masahiro Kato**, Kei Nakagawa, Kenshi Abe, Tetsuro Morimura and **Kentaro Baba**	Tech Flex Room C
11:45 – 12:10pm	The Impact of Transaction Costs On Forecast-Based Trading Strategy Performance	**James Lewis-Cheetham**, Yuhua Li, Federico Liberatore and Qingwei Wang	Tech Flex Room C

AML/Fraud – Session Chair - Oshani Seneviratne			
Time	**Title**	**Authors**	**Room**
10:30 – 10:55am	A Risk-Based AML Framework: Finding Associates Through Ultimate Beneficial Owners	**Sasan Jafarnejad**, François Robinet and Raphaël Frank	Gallery Room
10:55 – 11:20am	Optimizing Anti-Money Laundering Strategies in Brazil: Reducing False Positives with Machine Learning for Better Operational Cost Efficiency	Jose Ricardo de Oliveira and Adriano Galindo Leal	Gallery Room
11:20 – 11:45am	Explainable Artificial Intelligence and Causal Inference based ATM Fraud Detection	Yelleti Vivek, **Vadlamani Ravi**, Abhay Mane and Laveti Ramesh Naidu	Gallery Room
11:45 – 12:10pm	Fed-RD: Privacy-Preserving Federated Learning for Financial Crime Detection	**Md Saikat Islam Khan Bappy**, Aparna Gupta, Oshani Seneviratne and Stacy Patterson	Gallery Room

12:30 – 2:00pm – LUNCH

2:00 – 3:40pm – Parallel Sessions 2

Natural Language Processing – Session Chair - Aparna Gupta			
Time	**Title**	**Authors**	**Room**
1:30 – 1:55pm	Semantic Graph Learning for Trend Prediction from Long Financial Documents	**Bolun Xia**, Mohammed J. Zaki and Aparna Gupta	Tech Flex Room A
1:55 – 2:20pm	Quantitative Market Situation Embeddings: Utilizing Doc2Vec Strategies for Stock Data	**Frederic Voigt**, Jose Alcarez Calero, Keshav Dahal, Qi Wang and Kai von Luck	Tech Flex Room A
2:20 – 2:45pm	Sentiment-driven Stock Selection in Japan using Language Models	Masahiro Suzuki and **Hiroki Sakaji**	Tech Flex Room A
2:45 – 3:10pm	Sentiment Trading with Large Language Models	**Kemal Kirtac**	Tech Flex Room A

Market Simulation – Session Chair – Masanori Hirano			
Time	**Title**	**Authors**	**Room**
1:30 – 1:55pm	Model Based Simulation vs Generative Modeling in Limit Order Books	Andreea Minca and **Umur Cetin**	Tech Flex Room B
1:55 – 2:20pm	Experimental Analysis of Deep Hedging Using Artificial Market Simulations for Underlying Assets Simulators	**Masanori Hirano**	Tech Flex Room B

2:20 – 2:45pm	Time Series Generation with GANs for Momentum Effect Simulation on Moscow Stock Exchange	Maksim Kazadaev, **Vitaliy Pozdnyakov** and Ilya Makarov	Tech Flex Room B
2:45 – 3:10pm	An Integrated Econometric and Artificial Intelligence Methodological Framework for Measurements of Housing Affordability	Sayanti Roy and Amlan Mitra	Tech Flex Room B

Reinforcement Learning / Financial Optimization – Session Chair – Steve Yang			
Time	**Title**	**Authors**	**Room**
1:30 – 1:55pm	Q-Learning-Driven Dynamic Optimization of Moving Average Strategies in Financial Markets	**Bhavesh Kumar**	Tech Flex Room C
1:55 – 2:20pm	A Methodology for Developing Deep Reinforcement Learning Trading Strategies: A Case Study in the Futures Market	**Leonardo Conegundes** and Adriano Machado	Tech Flex Room C
2:20 – 2:45pm	Modeling investor sentiment jumps using deep reinforcement learning with a Hawkes cross-excitation modeling approach	**Yangyang Yu** and Steve Yang	Tech Flex Room C
2:45 – 3:10pm	A Two Time-Scale Evolutionary Game Approach to Multi-Agent Reinforcement Learning and Its Application in Algorithmic Collusion Studies	**Nan Chen**, Yumin Xu, Ruixun Zhang and Mingyue Zhong	Tech Flex Room C

Time Series / Prediciton – Session Chair – Leandro Maciel			
Time	**Title**	**Authors**	**Room**
1:30 – 1:55pm	Adaptive Fuzzy Modeling and Forecasting of Financial Time Series	**Leandro Maciel**, Rosangela Ballini and Fernando Gomide	Gallery Room
1:55 – 2:20pm	An On-line Predictive Test for the Common Break: Optimal Timing for Portfolio Adjustment	**Rui Fan**, Cindy Wang and Yimeng Xie	Gallery Room
2:20 – 2:45pm	On the Dollar Factor in Exchange Rates	**Arash Aloosh** and Geert Bekaert	Gallery Room
2:45 – 3:10pm	Synergistic Approach: Stacking Bagging Ensembles for Time Series Forecasting in Stocks	Igor Felipe and Carboni Battazza	Gallery Room

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Wednesday October 23, 2024

8:00 – 9:00am – Breakfast, Networking (Gallery Room)
9:00 – 10:00am – Panel Discussion - Agostino Capponi, Bart Frijns, Maggie Chen (moderator) (Gallery Room)
10:00 – 10:30am – Coffee Break (Gallery Room)
10:30 – 12:10pm – Parallel Sessions 3 (Techflex and Gallery Room)
12:10 – 1:30pm – LUNCH (Techflex)
1:30 – 3:10pm – Parallel Sessions 4 (Techflex and Gallery Room)
3:10 – 3:30pm – Coffee Break (Gallery Room)
3:30 – 4:30pm – Keynote Address – Andrei Kirilenko (Professor, University of Cambridge) (Gallery Room)

10:30 – 12:10pm – Parallel Sessions 3

AI in Finance – Session Chair – Anqi Liu

Time	Title	Authors	Room
10:30 – 10:55am	Generalized Groves of Neural Additive Models: Pursuing Transparent Machine Learning Models in Finance	**Dangxing Chen** and Weicheng Ye	Tech Flex Room A
10:55 – 11:20am	Can machine learning models better volatility forecasting A combined method	**Beining Han**, Anqi Liu, Jing Chen and William Knottenbelt	Tech Flex Room A
11:20 – 11:45am	Whack-a-mole Learning: Physics-Informed Deep Calibration for Implied Volatility Surface	Kentaro Hoshisashi, Carolyn E. Phelan and Paolo Barucca	Tech Flex Room A
11:45 – 12:10pm	FedPNN: One-shot Federated Classifier to predict Credit Card Fraud and Bankruptcy in Banks	Polaki Durgaprasad, Yelleti Vivek and **Vadlamani Ravi**	Tech Flex Room A

Blockchain – Session Chair - Jing Chen

Time	Title	Authors	Room
10:30 – 10:55am	Smart Contracts, Smarter Payments: Innovating Cross Border Payments and Reporting Transactions	**Maruf Ahmed Mridul**, Kaiyang Chang, Aparna Gupta and Oshani Seneviratne	Tech Flex Room B
10:55 – 11:20am	Synthetic KYC: Detecting Irregularities and Money Laundering on Blockchains	**Irene Aldridge**	Tech Flex Room B
11:20 – 11:45am	Predictive Analysis of Cryptocurrency Market Trends Using Genetic Algorithms: A Behavioral Economics Approach	**Rishi Gottimukkala**	Tech Flex Room B

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Discussion Session 1 – Session Chair – Junhuan Zhang			
Time	**Title**	**Authors**	**Room**
10:30 – 11:03am	FINMEM: A Performance-Enhanced LLM Trading Agent with Layered Memory and Character Design	Yangyang Yu, **Haohang Li**, Zhi Chen, Yuechen Jiang, Yang Li, Rong Liu, Jordan Suchow, Khaldoun Khashanah and Denghui Zhang	Tech Flex Room C
11:03 – 11:36am	FinCon: A Synthesized LLM Multi-Agent System with Conceptual Verbal Reinforcement for Enhanced Financial Decision Making	**Yangyang Yu**, Zhiyuan Yao, Haohang Li, Zhiyang Deng, Yuechen Jiang, Yupeng Cao, Zhi Chen, Jordan Suchow, Rong Liu, Zhenyu Cui, Denghui Zhang, Koduvayur Subbalakshmi, Guojun Xiong, Yueru He, Jimin Huang, Dong Li and Qianqian Xie	Tech Flex Room C
11:36 – 12:09pm	Vulnerability and profitability of block reorganization in Ethereum 2.0	Haodong Wang and **Junhuan Zhang**	Tech Flex Room C

Reasoning – Session Chair – Dong-Ling Xu			
Time	**Title**	**Authors**	**Room**
10:30 – 10:55am	Evidential Reasoning in the calculation of individual claims reserves	**Karim Derrick** and Xi Liu	Gallery Room
10:55 – 11:20am	A new belief rule based model to predict reserves for public liability insurance claims	Zhuqing Liu, Jian-Bo Yang, **Dong-Ling Xu**, Xi Liu and Karim Derrick	Gallery Room
11:20 – 11:45am	Representation Learning for Regime Detection in Block Hierarchical Financial Markets	**Alexa Orton** and Tim Gebbie	Gallery Room

12:10 – 1:30pm – LUNCH

1:30 – 3:10pm – Parallel Sessions 4

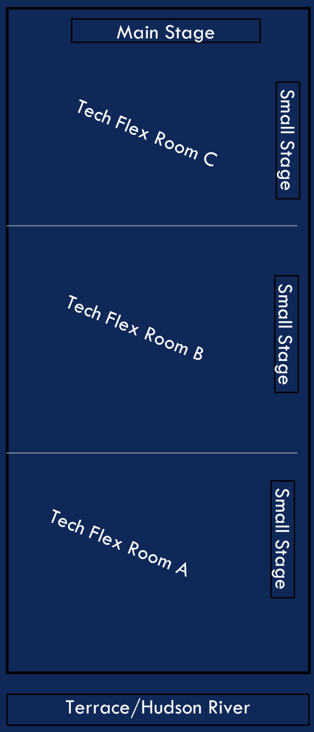
AI in Finance 2 – Session Chair – Irene Aldridge			
Time	**Title**	**Authors**	**Room**
1:30 – 1:55pm	Beyond Chat GPT: Managing Lack of Stationarity with Unsupervised AI	**Irene Aldridge**	Tech Flex Room A
1:55 – 2:20pm	α-dominance two-objective Optimization Genetic Programming for Algorithmic Trading under a Directional Changes Environment	**Xinpeng Long** and Michael Kampouridis	Tech Flex Room A
2:20 – 2:45pm	What Data Series Matter? Explaining key trends and factors generated by Artificial Intelligence	**Irene Aldridge**	Tech Flex Room A
2:45 – 3:10pm	Learning Embedded Representation of the Stock Correlation Matrix using Graph Machine Learning	**Bhaskarjit Sarmah**, Nayana Nair, Riya Jain, Dhagash Mehta and Stefano Pasquali	Tech Flex Room A

Tables and Datasets – Session Chair – Kazuma Kadowaki			
Time	**Title**	**Authors**	**Room**
1:30 – 1:55pm	JaFIn: Japanese Financial Instruction Dataset	**Kota Tanabe, Masahiro Suzuki,** Hiroki Sakaji and Itsuki Noda	Tech Flex Room B
1:55 – 2:20pm	Analysis of Important Phrases in Bidding Documents using Table Encoder Joint Extraction	**Tomoki Ito** and Shun Nakagawa	Tech Flex Room B
2:20 – 2:45pm	Towards Enhanced Information Access in Finance: A Dataset for Table Structure Understanding in Annual Securities Reports	**Kazuma Kadowaki**, Yasutomo Kimura and Hokuto Ototake	Tech Flex Room B
2:45 – 3:10pm	Financial Semantic Textual Similarity: A New Dataset and Model	**Shanshan Yang**, Steve Yang and Feng Mai	Tech Flex Room B

Discussion Session 2 – Session Chair – Brian Clark			
Time	**Title**	**Authors**	**Room**
1:30 – 2:03pm	Firm Complexity and Information Asymmetry: Evidence from ML-based Complexity to Measure Information Processing Costs	**Brian Clark**, Sai Palepu and Akhtar Siddique	Tech Flex Room C
2:03 – 2:36pm	Reinforcement Learning in Agent-Based Market Simulation: Unveiling Realistic Stylized Facts and Behavior	**Zhiyuan Yao**, Zheng Li, Matthew Thomas and Ionut Florescu	Tech Flex Room C
2:36 – 3:09pm	ECC Analyzer: Extract Trading Signal from Earnings Conference Calls using Large Language Model for Stock Performance Prediction	**Yupeng Cao**, Zhi Chen, Qingyun Pei, Prashant Kumar, Nathan Lee, K.P. Subbalakshmi and Papa Momar Ndiaye	Tech Flex Room C

Parallel Sessions Table

Session	Day	Time	Session Name	Room Name
A1	Tuesday October 22	10:30am – 12:10pm	Large Language Models	Tech Flex Room A
B1	Tuesday October 22	10:30am – 12:10pm	Risks	Tech Flex Room B
C1	Tuesday October 22	10:30am – 12:10pm	Optimization	Tech Flex Room C
D1	Tuesday October 22	10:30am – 12:10pm	AML / Fraud	Gallery Room
A2	Tuesday October 22	1:30 – 3:10pm	Natural Language Processing	Tech Flex Room A
B2	Tuesday October 22	1:30 – 3:10pm	Market Simulation	Tech Flex Room B
C2	Tuesday October 22	1:30 – 3:10pm	Reinforcement Learning / Financial Optimization	Tech Flex Room C
D2	Tuesday October 22	1:30 – 3:10pm	Time Series / Prediction	Gallery Room
A3	Wednesday October 23	10:30 – 12:10pm	AI in Finance	Tech Flex Room A
B3	Wednesday October 23	10:30 – 12:10pm	Blockchain	Tech Flex Room B
C3	Wednesday October 23	10:30 – 12:10pm	Discussion Session 1	Tech Flex Room C
D3	Wednesday October 23	10:30 – 12:10pm	Reasoning	Gallery Room
A4	Wednesday October 23	1:30 – 3:10pm	AI in Finance 2	Tech Flex Room A
B4	Wednesday October 23	1:30 – 3:10pm	Tables and Datasets	Tech Flex Room B
C4	Wednesday October 23	1:30 – 3:10pm	Discussion Session 2	Tech Flex Room C



Organizing Committee

- Steve Yang (Stevens Institute of Technology) – Co-Chair of the Organizing Committee
- Aparna Gupta (RPI) – Co-Chair of the Organizing Committee
- Agostino Caponi (Columbia University, US)
- Maggie Chen (Cardiff University, UK)
- Uzay Kaymak (Eindhoven University of Technology, Netherland)
- Tae-Wan Kim (Seoul National University, South Korea)
- Dietmar Maringer (University of Basel, Switzerland)
- Ruppa Thulasiram (University of Manitoba, Canada)
- Jing-bo Yang (University of Manchester, UK)
- Ruixun Zhang (Peking University, China)

Technical Committee

- Zach Feinstein (Stevens) – Chair of the Technical Committee
- Pablo Campos de Carvalho (BIS)
- Yi Cao (Edinburgh)
- Zhenyu Cui (Stevens)
- Roy S. Freedman (NYU)
- Robert Golan (DBMind)
- Anqi Liu (Cardiff)
- Lydia Manikonda (RPI)
- Kevin Mo (Invesco)
- David Quintana (University Carlos II de Madrid)
- Majeed Simann (Stevens)

Featured Speakers

Agostino Capponi
Professor of Industrial Engineering and Operations Research, Director of the Center for Digital Finance and Technologies at Columbia University

Bart Frijns
Dean Faculty of Management Sciences at Open Universiteit, Editor of the Journal of Futures Markets

Andrei Kirilenko
Professor of Finance, Director of the Cambridge Center for Finance, Technology & Regulation at the University of Cambridge

Shanker Ramamurthy
Managing Partner Global Banking & Financial Markets, IBM

Stevens Institute of Technology in Hoboken, NJ. is named for the distinguished family known as "America's First Family of Inventors." Founded in 1870, it is one of the oldest technological universities in the United States and was the first college in America solely dedicated to mechanical engineering. The 55-acre campus encompasses Castle Point, the highest point in Hoboken, a campus green and 43 academic, student and administrative buildings.
Since 1995, the IEEE Symposium on Computational Intelligence for Financial Engineering and Economics (CIFEr) has been a leading forum for research and applications of Computational Intelligence in Business, Finance and Economics. The financial services industry is presently undergoing considerable change due to the development of new technologically focused products and services. The understanding of these innovations requires multidisciplinary approaches from the perspective of industry, societal and government policies. The upcoming CIFEr 2024 will be co-hosted by the Center for Research toward Advancing Financial Technologies (CRAFT) funded by the U.S. National Science Foundation in the New York Metropolitan area. The event brings together a global community of researchers and practitioners with a particular emphasis on fostering cross disciplinary collaboration. Technical exchanges will encompass keynote talks, research presentations and tutorials. Networking will be facilitated by social functions and activities at the venue.

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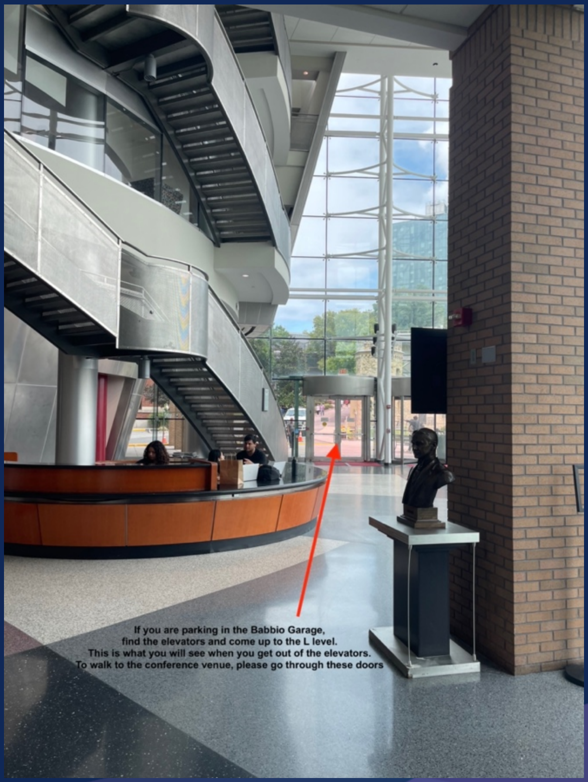
DIRECTIONS

FOR PEOPLE USING UBER/PUBLIC TRANSPORT/WALKING

All Taxi/Uber/Car Services/Public Transport/Walking should end at 525 River Street Hoboken, NJ 07030. This is the Stevens School of Business and is a 2min walk to the conference venue.

FOR PEOPLE PARKING

Please access the "Babbio Garage" from Frank Sinatra Drive



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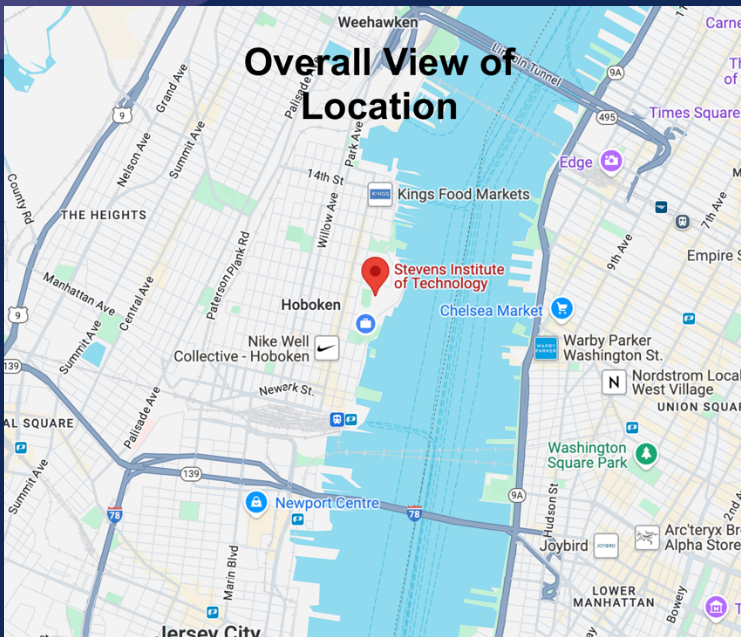
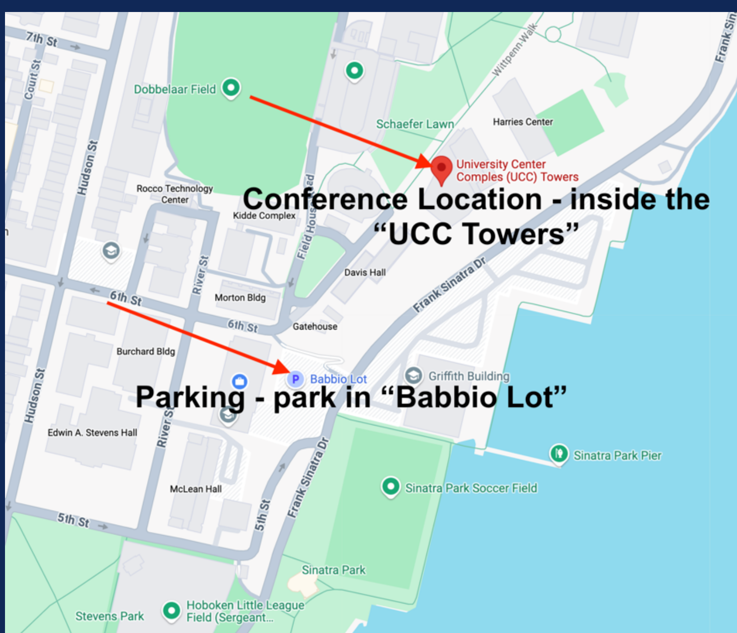
FOR EVERYONE





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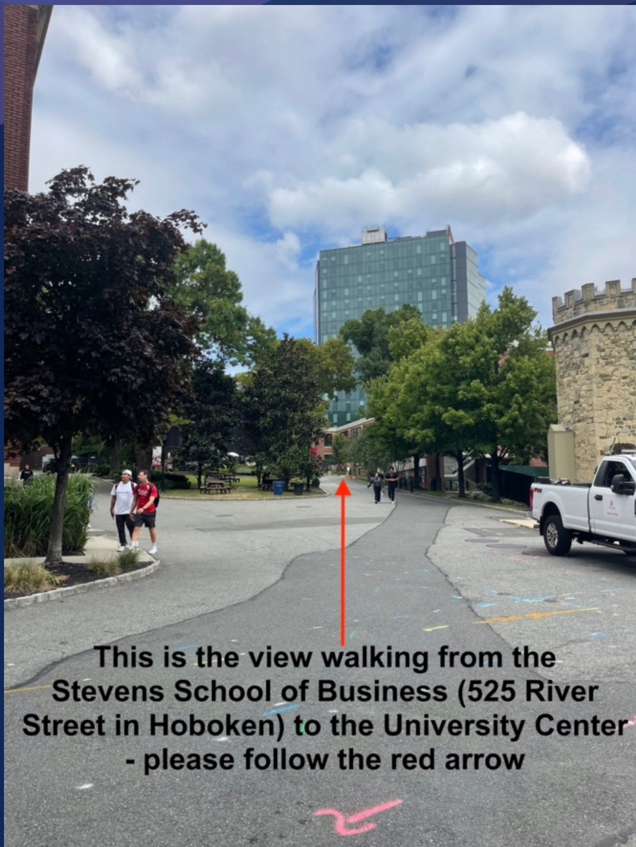

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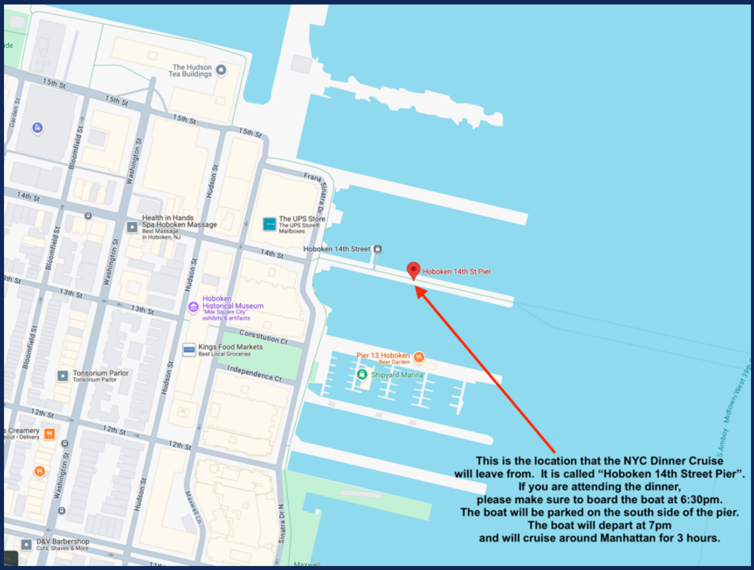
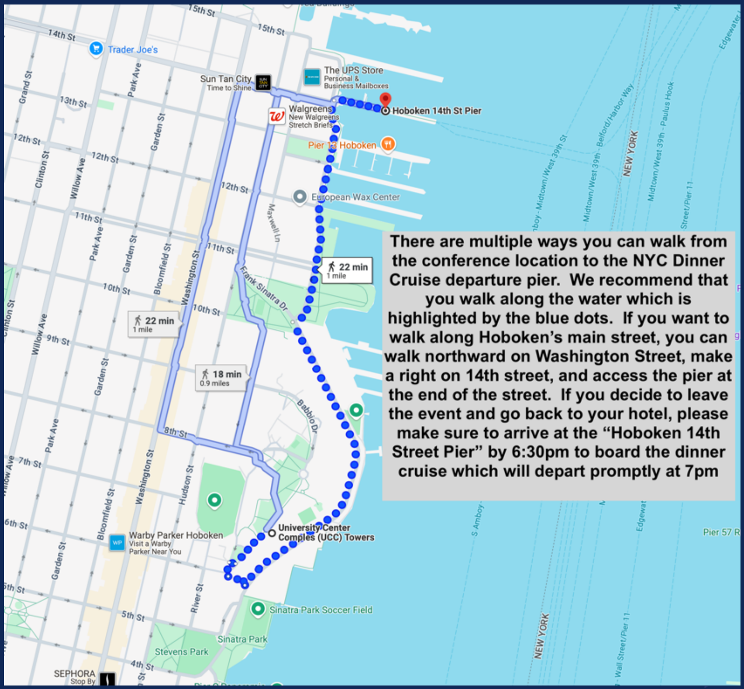
TO ACCESS THE NYC DINNER CRUISE

The cruise will be boarding at 6:30pm on Tuesday October 22, 2024 from the “Hoboken 14th Street Pier” and will leave the pier promplty at 7pm for the cruise which will be from 7-10pm and will sail around the Finanical District of Manhattan.





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