Michael Huang

https://mh3166.github.io/

| Contact Information | | Newman Vertical Campus 55 Lexington Ave New York, NY 10010 | ☑ michael.huang@baruch.cuny.edu | |
|----------------------------|----|--|--|---|
| Academic Positions | | Zicklin School of Business, CUNY E Assistant Professor of Operations and De | Baruch College, New York accision Analytics | t, NY 2024-Present |
| Education | | University of Southern California, Le Doctoral Candidate in Data Sciences a <i>Thesis</i> : Decision-Aware Learning in th <i>Advisors</i> : Vishal Gupta, Paat Rusmey | os Angeles, CA and Operations ne Small-Data, Large-Scale vichientong | 2017-2023 Regime |
| | | Columbia University, New York, NY M.S. in Operations Research B.S. in Operations Research, Minor in | Computer Science | 2011-2016 2016 2015 |
| Research Interests | | Large-scale, data-driven optimization with tions in transportation, healthcare, and re | a scarce data and algorithm ecommender systems. | design. Applica- |
| Publications | 1. | "Debiasing In-Sample Policy Performance for Small-Data, Large-Scale Optimization." with V. Gupta, and P. Rusmevichientong. Operations Research , 2022. | | |
| | 2. | "Dynamic server assignment in multiclass queues with shifts, with application to nurse staffing in emergency departments." with C. W. Chan and V. Sarhangian. Operations Research, 2021. Implemented data-driven web application to schedule nurses for a trial at Weill Cornell Medicine which reduced length of stay by an average of 1.7 hours | | |
| | 3. | "Extending Search Phases in the Micali-Vazirani Algorithm." with C. Stein. 16th International Symposium on Experimental Algorithms, 2017. (44% acceptance rate) | | |
| Working Papers | 4. | "Simplifying the Analysis of the Stein Comization Regime, " with V. Gupta and P. | rrection in the Small Data-J . Rusmevichientong, | Large Scale Opti- |
| | 5. | "Decision-Aware Denoising for Linear Optimization" with V. Gupta and P. Rusmevichientong, | | |
| | 6. | "Learning Best-in-Class Policies for the Predict-then-Optimize Framework" with V. Gupta, | | |
| Professional Experience | | Boston Consulting Group, Los Angele Senior Data Scientist Collaborated with the data science t design and deploy a markdown stratege Adopted across all retail department projecting a 7% profit uplift | es, CA eam of a luxury departmen gy optimizer s for the US market as pa | Spring 2022 Int store chain to art of a strategy |
| | | IBM, Yorktown Heights, NY Research Intern, Industry and Solutions 6 Developed a decision-tree-based learn tings that combines dimension reduction work | Group ing method for regression/ on and model fitting in an ϵ | Summer 2020 classification set- end-to-end frame- |

AWARDS

Mora, Boston, MA

Co-Founder and Chief Data Scientist

- Accepted into Harvard Business School Rock Incubator Venture Program
- Partnered with Harvard University Health Services to automate and improve recommendations generated from existing referral database

Aquant Capital Management, LLC, New York, NY Summer 2016 Consultant

- Replicated a private equity fund strategy through a risk-adjusted portfolio of small, value stocks
- Built a tool based on game theory model to optimize bidding strategy for auctions

Haidar Capital, New York, NY

Intern

- Authored software to automate profit and loss reconciliations
- Researched competitor funds focusing on macro strategy to identify potential and unexplored ideas

Commodity Futures Trading Commission, New York, NY Surveillance Analyst Intern

- Developed tools and quantitative models to detect disruptive trading practices

HONORS AND Marshall PhD Teaching Award

- Awarded to a student instructor (including PhD students and post-doctoral researchers) each year by USC Marshall School of Business for outstanding teaching practice

Marshall PhD Fellowship

- One of three fellowship awards of \$10,000 given to PhD students on the quality of their dissertation proposal and research achievements

Marshall Outstanding Researcher Award

- Awarded to two PhD candidates each year for exemplifying excellence in research

2nd Place (\$2,500) in Correlation One Datathon, West Coast Regional 2020

- Data science competition requiring teams to pose and and answer their own problems in urban transportation based upon real datasets
- Team awarded 2nd place among 1,000 total applicants
- Submission measured causal effects of introducing a bike share system to identify which neighborhoods of New York would benefit most from additional Citibike stations
- Leveraged weather as an instrumental variable to identify proportion of Citibike users who originally used taxis as their primary mode of transportation

1st Place (\$20,000) in Correlation One Datathon, Southern California 2017

- Data science competition requiring teams to pose and and answer their own problems in urban transportation based upon real datasets
- Team awarded 1st place among 1.000 total applicants
- Submission identified neighborhoods in NYC that needed more access to public transportation
- Quantified benefits of investing in more transportation using the excess demand growth in transportation usage after the introduction of Uber to the city

Marshall/Graduate School Fellowship

- Merit-based fellowship for graduate students to support their doctoral work, covering their tuition and stipend

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2019

2014-2015

2021

2021

2014

2022

2017-2022

| | The Robert Gartland Fellowship 2016 - Fellowship of \$5,000 to support MS students in the Columbia IEOR department who have demonstrated academic excellence and professional promise in engineering and its business applications | ; |
|------------------------|--|--------|
| Teaching Experience | USC Marshall School of Business BUAD 311 Operations Management, Undergraduate Core Instructor Fall 2020 - Independently lead lectures, held office hours, and graded exams for a core class with 28 students - Coordinated with a larger course teaching team to create exams - Awarded Marshall PhD Teaching Award, Instructor Rating: 4.63/5.00 |) |
| | Teaching Assistant Spring 2020 - Supported 500+ students over all sessions including office hours three times a week |) 2 |
| | Coordinated with teaching team to create exams and quizzes Columbia University CSOR 4231 Analysis of Algorithms I, Undergraduate and Graduate Core Teaching Assistant Fall 2016 Supported 100+ students with office hours and graded homeworks and exams Coordinated with instructor to create homework and exam questions HEOR 4405 Production Scheduling, Undergraduate Core | ; |
| | IEOR 4405 Production Scheduling, Undergraduate Core Spring 2016 Course Assistant Spring 2016 - Graded homeworks and exams for 45 students Spring 2016 | ; |
| Projects | Impact of Improved Logistics on Customer Satisfaction2020- Citadel Correlation One National Championship Datathon submission that studied how improving logistics in for the Brazilian e-commerce company Olist can improve customer satisfaction- Leveraged instrumental variables, matching for causal inference, and natural lan- guage processing, to identify two important operations levers that improve customer satisfaction: earlier package arrival and reducing the number of shipments- Used insights to prescribe potential regions in Brazil where Olist should expand their existing supply chain to improve customer satisfaction while optimizing their growth in the Brazilian market | |
| Invited Talks | 1. "Debiasing In-Sample Performance for Small-Data, Weakly-Coupled Settings" INFORMS Annual Meeting, Indianapolis, IN Cornell Young Researchers Workshop 2022 International Conference on Continuous Optimization Jul. 2022 | 22 |
| | "Learning Policy Performance for Weakly-Coupled Linear Optimization in the Small- Data, Large-Scale Regime" INFORMS Annual Meeting, Anaheim, CA Oct. 2021 | - L |
| | 3. "Decomposition Methods for Small-Data, Large-Scale Discrete Optimization" INFORMS Annual Meeting, Virtual INFORMS Annual Meeting, Seattle, WA Oct. 2019 |) |
| | "Extending Search Phases in the Micali-Vazirani Algorithm" Symposium on Experimental Algorithms, London, UK Jun. 2017 | 7 |
| SERVICE | Conference Organization: | |

2016

- ICCOPT Session Chair 2022, "Tackling Bias in Data-Driven Optimization: Fundamental Limits and New Approaches"
- INFORMS Session Chair 2019, "Emerging Topics in Data-Driven Optimization"

Reviewer/Referee:

- Manufacturing & Services Operations Management (MSOM)
- NeurIPS 2022
- ICML 2023

COMPUTING Python, R, Julia, C/C++, SQL, Cluster Computing, PyTorch, Gurobi

REFERENCES Prof. Vishal Gupta Marshall School of Business University of Southern California ∑ guptavis@usc.edu Prof. Paat Rusmevichientong Marshall School of Business University of Southern California ☑ rusmevic@usc.edu

Prof. Kimon DrakopoulosMarshall School of BusinessUniversity of Southern California☑ drakopou@marshall.usc.edu