

Alex Huang

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Education

MS	University of Chicago , Applied Mathematics	Sept 2022 – May 2025
	<ul style="list-style-type: none">• GPA: 3.9/4.0• Selected Coursework: Functional Analysis, Online Learning, Combinatorics, Algorithms, Nonlinear Optimization, Machine Learning, Deep Learning Systems, Computer Vision, Numerical Linear Algebra	
BS	Columbia University , Operations Research: Financial Engineering	Sept 2018 – June 2022
	<ul style="list-style-type: none">• Minor: Applied Mathematics• GPA: 3.95/4.0; Magna Cum Laude, Tau Beta Pi (Honors Society Inductee)• Selected Coursework: Real Analysis, PDE, Game Theory, Stochastic Processes, Statistics, Linear & Convex Optimization, Simulation Modelling, Applications Programming	

Research Experience

Research Intern – Chicago, Illinois	Mar 2025 – present
Advised by Dr. Pranav Nuti (Postdoc) and Prof. Rad Niazadeh	
<ul style="list-style-type: none">• University of Chicago Booth School of Business• Working on relaxing the uniform random arrival order assumption in secretary problem variants, specifically for matchings over edge-weighted bipartite graphs with vertex arrivals• Developed an optimal algorithm for the online edge-weighted bipartite matching problem with adversarial grouping that extends to a fixed time horizon setting (draft)	

Master's Thesis – Chicago, Illinois	Sept 2024 – Apr 2025
Advised by Prof. Cong Ma	
<ul style="list-style-type: none">• Studied convergence properties of scaled gradient descent (ScaledGD) and investigated performance for low rank adaptation (LoRA) fine-tuning in large-language models• Investigated impact of condition numbers and different initialization strategy on performance	

Work Experience

Machine Learning Engineer , Fireball Information Technologies – New York, New York	July 2022 – Jan 2024
Worked on wildfire detection system using machine learning and computer vision.	

Independent & Course Projects

Modeling NYC Taxi Profitability – New York, New York	June 2021
Joint work with Dr. Aapeli Vuorinen	
<ul style="list-style-type: none">• Analyzed NYC Open Data on taxi trips to model neighborhood-level profitability based on discounted future-profits that accounts for probable next destination via a PageRank-like concept	

Teaching

IEOR 4307 (Statistics and Data Analysis) Teaching Assistant	Fall 2020
Columbia University; Instructor: Kaizheng Wang	

Volunteering

Head Cook/Kitchen Organizer, St. Stanislaus Kostka Church – Chicago, Illinois Sept 2023 – June 2024

- Committed six hours every Monday for eight months, while training and onboarding new volunteers to sustain kitchen operations
- Organized and served meals for over 150 community members per session during Chicago's migrant crisis

Skills

Programming Languages & Databases: Python, PostgreSQL

Other Interests: generative image & video models, cooking, competitive Tetris, tennis