

Zixuan Zhu

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Education

University of Hong Kong

Sept 2022 – Now

PhD in Computer Science, supervised by Dr. Zhiyi Huang

- **Research Field:** Theoretical Computer Science
- **Research Topics:** Online Algorithms, Approximation Algorithms

University of Hong Kong

Sept 2017 – May 2022

Bachelor of Science

- **Major:** Mathematics
- **GPA:** 3.55/4.30 Second Class Honours (Division One)

Work Experience

Quantitative Research Internship

May 2025 – Sep 2025

Nonconvex Intelligent Technology Co., Ltd (HFT Team)

- Develop and implement high-frequency market-making strategies for stock index futures and commodity futures using the techniques of stochastic process, optimal control system, and differential equations. Construct the backtest system for performance analysis.
- Design and develop efficient order-splitting algorithms for various instruments by applying the methodologies of optimal stopping theory and online learning.
- Conduct research on market liquidity and live trading orders, employing mathematical and statistical models for characterization and analysis. Develop visualization tools for market data analytics.

Research Assistant

May 2022 – Aug 2022

The University of Hong Kong (Department of Mathematics)

- Conduct research on mean-field games and mean-field type control problems, investigating the existence of an analytical solution based on the underlying structures of various partial differential equations.
- Design efficient numerical schemes when finding an analytical solution is infeasible, and analyze the stability, accuracy and time complexity of these schemes.

Actuarial Internship

July 2020 – Dec 2020

AIA Group (Integrated Reporting Team)

- Perform the calculation and data extraction for the financial reports through Excel VBA to assist with the seasonal and annual reporting processes.
- Conduct data analysis and result explanation using spreadsheet and Prophet models, and summarize the main ingredients into aggregation reports.

Publications

* In the field of theoretical computer science, authors are listed in alphabetical order.

Laminar Matroid Secretary: Greedy Strikes Back

ESA 2024

Zhiyi Huang, Zahra Parsaeian, Zixuan Zhu

Best Paper Award (Track S)

MPMD on Two Sources with Lookahead

COCOON 2024

Enze Sun, Bo Wang, Quan Xue, Mengshi Zhao, Zixuan Zhu

Best Student Paper Award

Optimal 4-Approximation for the Correlated Pandora's Problem

FOCS 2025

Nikhil Bansal, Zhiyi Huang, Zixuan Zhu

Competitions & Programs

WorldQuant BRAIN Research Consultant <i>build mathematical models to predict the future price movement</i>	<i>April 2025 - now</i>
Jane Street SEE Program <i>trading track</i>	<i>July 2025</i>
WorldQuant BRAIN International Quant Championship 2025 <i>stage 1 top 0.3%</i>	<i>April 2025 - June 2025</i>
Jane Street Estimathon @ HKU <i>3rd place</i>	<i>April 2025</i>
JPMorgan Chase & Co. Quantitative Research Job Simulation <i>codes are available at GitHub </i>	<i>March 2025</i>
Kaggle WiDS Datathon 2025 <i>Unraveling the Mysteries of the Female Brain: Sex Patterns in ADHD</i>	<i>March 2025 - April 2025</i>
School of Computing & Data Science, HKU <i>Teaching Assistant of COMP 3252: Algorithm design and analysis</i>	<i>January - May 2023 & 2024</i>
School of Computing & Data Science, HKU <i>Student Teaching Assistant of COMP 1117: Introduction to Python</i>	<i>February - May 2022</i>
Hong Kong Educational Publishing Company Limited <i>Editorial Assistant</i>	<i>June 2020</i>
Summer Research Fellowship, HKU Faculty of Science <i>Working on project 'Use deep learning to solve PDEs: a numerical version'</i>	<i>June - September 2019</i>

Skills

Technologies: proficient in Python, Matlab, Excel VBA, fundamental C++, R Studio

Languages: native Mandarin, fluent English, basic Cantonese