Xinyue YU (Christina)

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EDUCATION

The University of Hong Kong   Hong Kong S.A.R.

Bachelor of Science (Major in Mathematics)   *Sept. 2021 – June 2025*

- **Cumulative GPA:** 3.69/4.30, First Class Honors[1]
- **Relevant courses:** Ordinary Differential Equations, Partial Differential Equations, Operations Research I, Network Models in Operations Research, Introductory Optimization, Probability and Statistics I&II, Discrete Mathematics

McGill University   Montreal, Canada

Exchange Student   *Jan. 2023 – Apr. 2023*

- **Semester GPA:** 3.88/4.00

RESEARCH INTERESTS

Operations Research, Transportation and Logistics, Resource Allocation, Risk Mitigation

RESEARCH EXPERIENCE

Optimal Control for Multi-Agent System (Final Year Project Research)

Supervised by Prof. Tak Kwong Wong, The University of Hong Kong   *Aug. 2024 – Present*

- Referred to literature in linear quadratic discrete choice problems, explored further on realistic applications in optimal exits design for theaters and auditoriums
- Studied in the collective choice model (CCM) introduced in literature of linear quadratic mean field game (LQ-MFG), compared its strengths and drawbacks with other formulations

PDE Solver Models Review

Supervised by Prof. Sui Tang, The University of California, Santa Barbara   *Apr. 2024 - June 2024*

- Referred to *PDEformer: Towards a Foundation Model for One-Dimensional Partial Differential Equations*, conducted literature review and compared different PDE solver models
- Studied on zero-shot learning, methodology of PDEformer model, and the efficiency of the PDEformer, compared the advantages of PDEformer with other PDE solvers

Basics of Optimal Control and Simple Real-World Applications

Supervised by Prof. Tak Kwong Wong, The University of Hong Kong   *June 2023 – Aug. 2023*

- Applied optimal control on the simulation of the scenario for multiple audience after a movie, tried to minimize the time for all agents to depart from the theater with no clash and the velocity is proportional to the average distance with other agents, coded in MATLAB to demonstrate the trajectory and velocity of every agent in 1-agent case and 2-agent case

Supervised Learning in Low Light Signal Detection Biomedical Experiments

Supervised by Dr. Vyacheslav Kalchenko, Weizmann Institute of Science (Israel)   *Aug. 2022*

- Cowrote the report *Making the Invisible Visible: Regression and Artificial Neural Networks in Low Light Signal Detection*
- Diagnosed the overuse of live animals in low-light detection biomedical experiments and developed ML approaches
- Applied supervised learning to train a model on the imitation of human visual recognition and animal reactions

HONORS, AWARDS & MEMBERSHIP

The University of Hong Kong

    Lee Shau Kee Scholarship, full tuition scholarship awarded by HKU & Lee Shau Kee Foundation   *Sept. 2021 – July 2025*

    Rosita King Ho Scholarship, exchange scholarship awarded by HKU & Rosita King Ho Foundation   *May 2023*

    Dean's Honor List, awarded by HKU Faculty of Science   *Sept. 2021 – May 2022*

    Young Scientist Scheme Member in HKU Faculty of Science   *Sept. 2021 – May 2023*

Croucher Foundation

    Full sponsorship in the International Science Summer Institute hosted in Weizmann Institute of Science (Israel)   *July 2022*

Chinese Mathematical Society

    Provincial First Prize in China National High School Mathematics Olympiad   *Oct. 2020*

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[1]Anticipated by CGPA under the Honors Classification at The University of Hong Kong.

TEACHING EXPERIENCE

Teaching Assistant, The University of Hong Kong

MATH2822 Mathematical Methods for Actuarial Science II	*Jan. 2025 – May 2025 (assigned)*
MATH1821 Mathematical Methods for Actuarial Science I	*Sept. 2024 – Dec. 2024*
COMP1117 Computer Programming (Python)	*Sept. 2023 – Dec. 2023*

WORK EXPERIENCE

China International Capital Corporation   Shanghai, China
Equity Research Intern   *May 2024 – Aug. 2024*
- Researched on global energy drinks market for competitive landscape change, product features, and consumer preferences
- Studied in Japan beer market history, liquor tax policies, major market players, and market portfolio change

Petrel Capital Greater China Fund   Hong Kong S.A.R.
Equity Research Intern   *June 2023 – Aug. 2023*
- Covered the materials and consumer sector, studied the main players, their market shares, and the change of shares
- Deep dived into the sportswear industry, analyzed the manufacturing and destocking schedule of top-10 market players

Yunnan Baiyao Group Pharmaceutical E-Commerce Co., Ltd.   Kunming, China
Data Lake Project Intern   *May 2022 – July 2022*
- Merged databases based on the business model using SQL, optimized the structure of dictionaries to improve efficiency in looking up

LEADERSHIP, ACTIVITIES & VOLUNTEERING EXPERIENCE

AI Prototype for Mental and Resources Support for Care Givers in Hong Kong   Hong Kong S.A.R.
Team member   *Aug. 2024 – Present*
- Cooperated with Agewhale, a local startup in care givers support, to develop technical solutions for family carers to navigate and coordinate elder care approaches and resources, offered accurate and updated information on related inquiries by the AI model
- Supported in data collection, sorting, and filtering, formulated the customer journey of users and the database, optimized the answers provided by the AI model by clearing redundant data and rephrasing wordings

The University of Hong Kong and Faculty of Science   Hong Kong S.A.R.
Student Ambassador   *Sept. 2021 – Present*

The University Business Consulting Club   Hong Kong S.A.R.
Vice President & Leader of Training Department   *Apr. 2023 – Apr. 2024*
- Managed the weekly training on financial market overview, case interview training, and the pharmaceutical industry
- Administered freshman orientation camp organizing, club members recruitment, and business competition hosting

PwC's Metaverse Challenge 2023   Hong Kong S.A.R.
Team Member of Audience Favorite   *July 2023*
- Designed the architecture and optimized metaverse onboarding experience for a company after acquisition in Sandbox

Sunflower Program, Shenzhen Shiyu Children Foundation   Kunming & Shenzhen, China
New Media Group Member and Social Work Volunteer (140 hrs in Kunming, 20 hrs in Shenzhen)   *July 2018 – Present*
- Volunteered in ward caring enterprise hosted in Shenzhen and Kunming for children suffering from tumors and cancers

SKILLS & CERTIFICATES

Languages: English (TOEFL 105: Listening 25, Reading 30, Writing 27, Speaking 23), Mandarin (native), Cantonese (basic)
Skills: Python, C, SQL, LaTeX, MATLAB; Capital IQ, Bloomberg
Certificates: CFA ESG Investing Certificate, Society of Actuaries P Exam Passed