# Kaiyi Huang

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## EDUCATION

| | | |
|---|---|---|
| Sep. 2014 – Jul. 2019 | **The Chinese University of Hong Kong** | BSc in Mathematics |

Double streams: Enrichment; Computational & Applied Maths

- Dean's List, 2017-2018 (top 10%)

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| Aug. 2016 – May. 2017 | **Sciences Po Paris** | Exchange Programme |

Mention Cum Laude

- Certificate in International Affairs & Strategy
- Certificate in Business & Economics

## RESEARCH EXPERIENCES

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| Apr. 2020 – present | **The Hong Kong University of Science and Technology** | Department of Mathematics |

Research Assistant[1]

- Independently carried out an image classification project.
- Realized deep learning models using PyTorch.
- Designed early learning algorithms to counter data imbalance and label noise issues.
- Studied causal inference to attack distributional shift issues.
- Launched a Kaggle data contest.
- Prepared sample answers for assignments of a graduate level topological data analysis course.

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|---|---|---|
| May. 2019 – Jul. 2019 | **The Chinese University of Hong Kong** | Department of Mathematics |

Research Assistant

- Researched supervised learning, unsupervised learning, and neural networks.
- Prepared lecture notes on machine learning.
- Prepared sample MATLAB and Python code for machine learning algorithms.

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| Sep. 2018 – Dec. 2018 | **The Chinese University of Hong Kong** | Department of Mathematics |

Capstone Project

- Studied Cucker-Smale model with symmetric and lower triangular Laplacian matrices.

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| Apr. 2014 – present | **CASH Algo Finance Group Ltd** | Quantitative Finance Lab |

Summer Quantitative Analyst

- Researched algorithmic trading strategies.
- Backtested trading strategies.

## WORK EXPERIENCE

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| Aug. 2019 – Jan. 2020 | **BC Technology (Hong Kong) Limited** | Application Services |

Graduate Trainee

- Used Java to automate FIX regression testing on crypto-currency trading.
- Used JavaScript and React to write a CRUD UI for a database.

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[1]Example project: Nexperia

## PUBLICATIONS

1. Huang, K. (2020). The first progress report on advanced data analytics for abnormal detection of semiconductor devices. `https://github.com/huangkaiyikatherine/nexperia/blob/master/The_First_Progress_Report_on_Advanced_Data_Analytics_for_Abnormal_Detection_of_Semiconductor_Devices.pdf`

2. Huang, K. (2020). A self-contained proof for Eckart-Young-Mirsky Theorem in low-rank approximation problems. `https://kathysmindpalace.wordpress.com/2020/03/15/a-self-contained-proof-for-eckart-young-mirsky-theorem-in-low-rank-approximation-problems/`

3. Huang, K. (2019). From mathematics to a "conscious" machine. In *CUriosity, (2)* 10-13. `https://www.curiositycuhk.com/single-post/2019/05/13/From-Mathematics-to-a-Conscious-Machine`

4. Huang, K. (2018). Reports on birds flocking behaviours. `https://drive.google.com/file/d/1dGNm8P5quxqLrgrCk1tzSxuGMi4tCwej/view?usp=sharing`

## SCHOLARSHIPS & AWARDS

| | | |
|---|---|---|
| Jan. 2019 | College Head's List Scholarship, 2018 – 2019. | HKD 1,000 |
| Aug. 2017 | HKSAR Government Scholarship Reaching Out Award 2016/2017. | HKD 10,000 |
| Aug. 2016 | Shaw College Scholarships for Outgoing Exchange Students 2016/17. | HKD 10,000 |

## SKILLS

Programming Skills

- Python, Pytorch, SQL, Java, JavaScript, R, MATLAB, C++, STATA

Language Skills

- English: Fluent
- Mandarin Chinese: Native
- Cantonese: Native
- Hakka: Native
- French: CEFRL B1