

James Chen

LinkedIn: <https://www.linkedin.com/in/james-chen-040baa24a/>

GitHub: <https://github.com/jamiecjx>

james.chen21@imperial.ac.uk

(+44) 07423 068365

Education

Imperial College London

2021-2025

MSci Mathematics

- Expected First Class Hons
 - Year 2 total: 93.07%, Top 5% + Dean's list
 - Year 1 total: 86.97%, Top 5% + Dean's list
- Relevant modules: *Probability Theory, Applied Probability, Markov Processes, Statistical Modelling 1, Probability for Statistics, Computational Linear Algebra, Principles of Programming.*
- I-Explore course: *Business Economics*
- Awards:
 - G-Research Prize, awarded for academic excellence 2022
 - Mathematics Department Second Year book Prize, for Excellence 2023

Research experiences/Projects

UROP: Undergraduate Researcher (Supervisor: Dr Sheehan Olver)

June 2023 – November 2023

- Investigated the eigenvalue statistics of sums of independent random matrices and their relation to the field of free probability, motivated by applications in signal processing and high-dimensional statistics.
- Developed and tested algorithms using Julia, in the open-source package `NumericalFreeProbability.jl`, which taught me the importance of efficiently implementing algorithms from theory into practice.
- Results presented at the Imperial-UCL Numerics seminar on 29/11/2023.

2nd Year Group project – Imperial College London

May 2023 – June 2023

- Worked in a team of 5 to investigate the evolution of periodic solutions in the Lorenz system over variation of a key parameter.
- Implemented core mathematical algorithms in Python and MATLAB to locate and plot solutions. Figures were incorporated into a 40-page report, which was produced in LaTeX.
- Presented as a group on the 21/6/2023 with overall mark of 86.50%.

Chetham's School of Music

2014 – 2021

- 5A* (Mathematics, Further Mathematics, Physics, Chemistry, Music)

Technical Skills

- Python, Julia, LaTeX, MATLAB, R
- English (Native), Mandarin (HSK L3)

Work Experience

Problem Solving Matters: Mentor

June 2023 – September 2023

- Mentored a group of 8 Year 12 students through sets of questions designed for university admission test preparation, including STEP and MAT tests for Cambridge and Imperial.
- Communicated and explained mathematical ideas, tips and tricks in an accessible way.

Peer Tutor

November 2023 – April 2024

- Provide academic support for 6 first year mathematics students by conducting organised weekly tutorials.
- Illuminated mathematical ideas by showing applications in computer science and physics.

Extracurricular activities and other interests

Imperial College Investment Society

- Securities Education Certificate: Distinction. (Top 20%) October 2022 – December 2022
 - Modules: Asset Markets, Corporate Finance, Quantitative Analysis, Portfolio Management. Topics: Macroeconomics, FX, Equities, Derivatives, Fixed Income, Real Estate & Commodities

Imperial College Chamber Music Society

- Semi-professional pianist: DipABRSM, LRSM and FTCL diplomas in piano performance.
- Recipient of the Ede and Ravenscroft Music Bursary, awarded to students who contribute to musical life at Imperial significantly.