

Chun-Hei Lam

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Education

MSci Mathematics with a Year Abroad (MIT Exchange)

Sept 2020 –

Massachusetts Institute of Technology

- Concentration: Dynamical Systems, Stochastic Analysis, Statistical Learning. See page 3 for course details.
- GPA 5.0/5.0 on first term

MSci Mathematics with a Year Abroad

Oct 2018 –

Imperial College London

- See page 3 for course details.
- First Class in Year 1 and 2 with Dean's List

General Certificate of Education, A Level

Sep 2016 – Jun 2018

HKCCCU Logos Academy

Modular Mathematics (A*A*A*), Physics (A), Chinese (A*)

Research Interests

- Dynamical System: Bifurcation and Chaotic behavior of a system. Relationship between deterministic and stochastic differential equations.
 - Theory of Statistical Learning: Inference on models involving differential equations, Multivariate Analysis and Random Matrices, Neural Network.
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Exposition Papers / Projects

They will be available in my website in due course.

- Empirical Distribution Theory (with S. Im), 2020. (Final project of course *Theory of Probability*)
 - Computation of Empirical Measure, 2020. (Final project of course *Random Matrices*)
 - Characterising Chaos in Pilot Wave System, 2020. (Final project of course *Non-Linear Dynamics I: Chaos*)
 - Enhanced Diffusion Process, 2020. (Continuation of 2nd year UROP, supervised by M. Coti-Zelati)
 - A Retrospective Analysis of Governmental Interventions to COVID-19, 2020. (2nd year research project)
 - Simple Application of Approximate Bayesian Computation (ABC) in Modelling Tumor Growth, 2019. (1st year research project)
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Notes

They will be available in my website in due course.

- Theory of Classical Statistics II: Regression and Multivariate Analysis with demonstration in Julia, ongoing.

Related Experience

Peer Tutor – Imperial College London

Oct 2020 –

- Hosting weekly tutorial for first year student, covering additional materials in lectures.

Other Experiences

Trainee – Bright Wise Management Limited

Aug 2019

- Automation of company secretary work.
- Assisted auditing and accounting projects.

Subcommittee – Imperial College Public Awareness and Social Service Society

Oct 2018 – Sept 2019

- Participant of *Oxford Model Legislative Council*
- Facilitated annual flagship event – *Famine 24*
- Member of Publication Team

Volunteer – Annual Service Trip (Cambodia)

Aug 2018

- Facilitated in village development
- Coordinator of daily English Class in *Angkor Kids Center*

Languages

Cantonese (First Language)
Chinese (First Language)
English (Fluent)

Technical Skills

Computation: MATLAB, Python, R, STAN, Julia
Webpage Development: HTML, CSS, Javascript
(including React.js and Typescript)
Typesetting: Microsoft Office, LaTeX
Design: Canvas and Figma

Hobbies

Post-1900s history
Systematic Theology
Classical Music
Trainspotting
Minecraft Architecture

Appendix: List of Attended / Ongoing Courses

Please see transcripts for details

Attended	Attended as Listener
Year 3 (Massachusetts Institute of Technology)	
18.103 Fourier Analysis: Theory and Application 18.338 Eigenvalues of Random Matrices 18.353 Non-Linear Dynamics: Chaos 18.675 Theory of Probability 6.S087 Mathematical Methods for Multidimensional Statistics [^]	18.155 Differential Analysis I* 6.S191 Deep Learning ^{^*}
Year 2 (Imperial College) #	
Differential Equation Multivariate Calculus Introduction to Numerical Analysis Real Analysis Algebra II Complex Analysis Metric Spaces and Topology Probability and Statistics II Year 2 Research Project	Introduction to Partial Differential Equation* Measure and Integration* Probability Theory** Statistical Theory* Time Series Analysis* Introduction to Statistical Learning* Multivariate Analysis**
Year 1 (Imperial College)	
Foundation of Analysis Mechanics Mathematical Methods I/II Analysis I Geometry and Linear Algebra Algebra I Probability and Statistics I Intro to Computation Year 1 Research Project	Multivariate Calculus** Intro. to Numerical Analysis** Probability and Statistics II** Statistical Modelling I*

[^] Obtained "Pass", grades currently not available.

Academic performance is affected by current Covid-19 situation.

* Attended as a listener: there is no formal record for these modules.

** I have taken the modules again in next semester with gradings.