

Ivan Lau | Curriculum Vitae

National University of Singapore, School of Computing, COM2 #-B1-01, 15 Computing Dr, Singapore 117418

🏠 <http://www.sfu.ca/~iplau/>

✉ ivanlau@nus.edu.sg

EDUCATION

Simon Fraser University

Burnaby, BC, Canada

Master of Science (MSc) in Mathematics

September 2019 - August 2021

Thesis: 🌀 Nonuniform Compressed Sensing Schemes with Sublinear Measurements, Sublinear Time, and Low Entropy (awarded Certificate with Distinction)

Advisor: Jonathan Jedwab

Thesis committee members: Ben Adcock, Weiran Sun (Chair), Paul Tupper (Examiner)

University of Edinburgh

Edinburgh, UK

BSc (Hons) in Computer Science and Mathematics

September 2015 - June 2019

First-Class Honours

Computer Science thesis: 🌀 Hermitian Spectral Theory of Mixed Graphs

Mathematics thesis: 🌀 Left Braces and the Solutions of the Yang-Baxter Equation (awarded best project)

RESEARCH INTERESTS

Compressed Sensing, Mathematical Data Science, Theoretical Machine Learning

EMPLOYMENT

Department of Computer Science, National University of Singapore

September 2021 - Present

Research Assistant

Supervisor: Jonathan Scarlett

Department of Mathematics, Simon Fraser University

September 2019 - August 2021

Research Assistant

Department of Mathematics, Simon Fraser University

September 2019 - December 2020

Teaching Assistant

School of Informatics, University of Edinburgh

September 2017 - May 2019

Tutor, Marker and Lab Demonstrator

School of Informatics, University of Edinburgh

June 2018 - September 2018

Research Intern

Project: Hermitian Spectral Theory of Mixed Graphs

Supervisor: He Sun

Last updated September 4, 2021.

See <http://www.sfu.ca/~iplau/CV.pdf> for the most recent version.

PUBLICATIONS

Preprint

- [P1] Hooman Zabeti, Nick Dexter, **Ivan Lau**, Leonhardt Unruh, Ben Adcock, Leonid Chindelevitch.
🔗 Group Testing Large Populations for SARS-CoV-2, 2021.

Journal Paper

- [J1] **Ivan Lau**. 🔗 An Associative Left Brace is a Ring. In *Journal of Algebra and Its Applications*, 2019.

Conference Paper

- [C1] **Ivan Lau** and Jonathan Jedwab. 🔗 Construction of binary matrices for near-optimal compressed sensing. In *IEEE International Symposium on Information Theory (ISIT)*, 2021.

TALKS

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|---|---------------|
| <i>From the YBE to the Left Braces</i> | June 2019 |
| Groups, Rings and Associated Structures 2019 | Spa, Belgium |
| <i>Left Braces and the Yang-Baxter Equation</i> | February 2019 |
| Institute of Mathematics & its Applications: Tomorrow's Mathematicians Today 2019 | London, UK |

TEACHING EXPERIENCE

Simon Fraser University

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|--|------------------------|
| Calculus Workshop (Teaching Assistant) | Fall 2020 |
| Applied Calculus Workshop (Teaching Assistant) | Summer 2020 |
| Computing with Linear Algebra (Teaching Assistant) | Spring 2020 |
| Algebra Workshop (Teaching Assistant) | Spring 2020, Fall 2019 |

University of Edinburgh

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|---|--------------------------|
| Informatics 2B - Algorithms, Data Structures, Learning (Tutor) | Spring 2019 |
| Informatics 2D - Reasoning and Agents (Tutor) | Spring 2019, Spring 2018 |
| Algorithms and Data Structures (Tutor) | Spring 2019 |
| Discrete Mathematics and Mathematical Reasoning (Tutor, Marker) | Fall 2018, Fall 2017 |
| Informatics 1 - Cognitive Science (Lab Demonstrator) | Spring 2018 |

AWARDS AND HONOURS

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| Simon Fraser University Department of Mathematics Certificate "With Distinction" | 2021 |
| Simon Fraser University Graduate Fellowship (\$6500 CAD) | 2020 |
| Simon Fraser University Special Graduate Entrance Scholarship (\$5000 CAD) | 2019 |
| University of Edinburgh William and Isabella Dick Fourth Year Project Prize | 2019 |
| Malaysian Public Service Department Overseas Full-Ride Scholarship | 2015 |
| Malaysian Computing Challenge (Perfect Score) | 2014, 2013 |
| Malaysian National Mathematical Olympiad (4th - 13th Place Bracket) | 2013 |
| International Competitions and Assessments for School (Gold Medal in Science) | 2012 |