

# Rohan Hitchcock

rohan.hitchcock@pm.me • linkedin.com/in/rohan-hitchcock • rohanhitchcock.com

Highly motivated graduate mathematics student at the University of Melbourne. Has advanced problem solving skills developed in postgraduate mathematics education and pure mathematics research. This is backed up by strong technical skills in machine learning, data science and programming, acquired through research and teaching roles and study. Is highly competent at communicating complex and technical subjects, as demonstrated by teaching and mentorship roles and frequent participation in research seminars.

## Education

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**Master of Science (Mathematics and Statistics)** Jul. 2020 – Nov. 2022

*The University of Melbourne*

- Completing thesis in algebraic geometry. Research has also included some study in the theory of deep learning.
- Presented research in seminars and collaborated with others.
- Specialising in pure mathematics, with additional study in machine learning, probability, and statistics.

**Bachelor of Science (Mathematics and Statistics)** Feb. 2017 – Jul. 2020

*The University of Melbourne*

- Specialised in pure mathematics, with additional study in probability at a third-year level.

**Diploma in Computing** Feb. 2017 – Jul. 2020

*The University of Melbourne*

- Completed study in machine learning, artificial intelligence, theoretical computer science and software engineering at a third-year level.

## Relevant Experience

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**Tutor (Computer Science, Mathematics)** Jul. 2020 – Present

*The University of Melbourne*

- Taught tutorials in third-year artificial intelligence and theoretical computer science, and first-year calculus and linear algebra.
- Produced supplementary videos and an interactive module in an online coding platform for a third-year computer science subject.
- Developed skills for teaching complex and technical subject matter.

**Research Assistant** Jul. 2019 – Aug. 2020

*The Peter Doherty Institute, The University of Melbourne*

- Worked on a research project which aimed to determine a stochastic model for immune cell motion using microscope imaging data.
- Co-authored an immunology paper by contributing supporting simulation data and rewriting legacy image processing code.
- Used Python and scientific libraries such as Numpy and Scipy to fit imaged blood vessels with a connected network of curves, and analysed cell motion through these vessels.
- Wrote multi-threaded simulations of cell motion using C with OpenMP.
- Developed a suite of research and technical skills including in data science and data analysis, studying phenomena via simulation, and managing a large software project.

## Research Internship

Jul. 2018 – Jul. 2019

*The Peter Doherty Institute, The University of Melbourne*

- Independent research project investigating immune cell movement using simulation. Presented work at an undergraduate conference.

## Other Experience

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### AMSI Vacation Research Scholarship

Dec. 2019 – Jan. 2020

*The University of Western Australia*

- Completed six week pure mathematics research project resulting in a report and presentation at the AMSI Connect conference.

### Demonstrator (Computer Science)

Feb. 2018 – Jun. 2018

*The University of Melbourne*

- Assisted the tutor in practical classes that introduced students to programming in Python.

### Assistant Customer Experience Manager, Shift Supervisor

2016

*McDonald's Australia*

- Implemented customer service training program, responded to customers who had lodged complaints, and managed shifts.
- Developed leadership and management skills in a fast-paced environment.

## Volunteering

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### Mentor

Sep. 2021 – Present

*The Institute for Enquiring Minds*

- One-on-one mathematics mentoring with a high-school student as part of a charity which connects mentors with students from disadvantaged backgrounds.

### Seminar Organiser (Mathematics)

Feb. 2020 – Jul. 2021

*The University of Melbourne*

- Organised three semester-long seminar series for first and second year mathematics students. The topics were cryptography, game theory, and neural networks.
- Designed the curriculum for seminars, mentored and provided feedback to students, and was responsible for general administration tasks.

## Key Skills

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- Excellent mathematical problem solving and reasoning.
- Strong research skills in theoretical and applied fields.
- Data science, data analysis and machine learning (including deep learning).
- Technical communication including writing, public speaking and teaching.
- **Tools:** Python, C, Haskell, Java, MATLAB, OpenMP, Numpy, Scipy, Pandas, Git.

## Awards and Achievements

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- Leaders in Communities Award, University of Melbourne (2022).
- Flagstaff Partners Award in Science and Engineering, University of Melbourne (2021).
- Mathematics and Statistics School Scholarship, University of Melbourne (2021).
- Dean's Honours List, University of Melbourne (2017).

*References available upon request.*