

ADELE JACKSON

<https://adelejackson.com> ♦ adelejackson2@gmail.com ♦ 0497 276 085

EDUCATION

PhD (Mathematics), University of Oxford, UK

2019–2024

Supervisor: Professor Marc Lackenby. Thesis: “Seifert fibered spaces: triangulation and recognition”.

Conducted research on algorithms and low-dimensional topology. Authored three research papers ([arXiv link](#)).

Awarded Clarendon Scholarship and Oxford-Australia Lincoln College Scholarship.

Gave 20 research talks (30min–1hr) to audiences ranging from a general computer science seminar to specialised international conferences.

Bachelor of Philosophy (Science) (1st class honours), ANU, Canberra

2015–2018

Honours thesis supervisor: Associate Professor Joan Licata. Wrote thesis in Geometric Group Theory.

Awarded National Merit Scholarship, ChooseMaths Scholarship and Vacation Research Scholarship.

GPA: 6.938/7

EXPERIENCE

University of Sydney, School of Mathematics and Statistics, Researcher

Mar 2024 - Present

- Investigated new mathematical problems in algorithms and topology.

University of Oxford, Teaching and outreach

Oct 2020 - Oct 2023

- Taught weekly tutorials for first year mathematics at St Catherine’s College (2020–23).
- Ran 20 MESME mathematics enrichment sessions for students in disadvantaged schools.
- Tutor for UNIQ outreach program and Opportunity Oxford bridging program for underprivileged applicants.

Machine Learning Research Group, Data61, CSIRO, Research Assistant

Jan 2019 - Jun 2019

- Worked on error detection in aviation, using ML models to study sensor faults.
- Used expertise in mathematics to explain topology-based ML papers from NeurIPS to a computer science audience.
- Wrote expository paper on the mathematics of UMAP, a new dimension reduction algorithm.

Australian Informatics Olympiad Program, Australian Mathematics Trust, Tutor

Dec 2014 - Dec 2018

- Tutor at residential camps, giving lectures on university-level algorithms to high school students.
- Received average evaluation of 4.7/5 from students.
- Rapidly picked up Perl, SQL and shell scripting for training site maintenance.
- Worked in a team to prepare automated exams to a tight timeline.

School of Computer Science, Australian National University, Tutor

Feb 2017 - Nov 2018

- Teaching assistant for Introduction to Statistical Machine Learning, a challenging masters course, in 2017 and 2018.
- Applied a broad knowledge of statistics, probability, vector calculus and machine learning to assist students.
- Teaching assistant for COMP1730: Programming for Scientists (Python) in 2018.

Bruce Hall, Australian National University, Senior Resident

Jan 2017 - Dec 2017

- Provided pastoral care and coordinated an academic mentoring program.
- Responded to emergencies and mental health crises on an on-call roster.
- Worked with 18 other team members to run community events.

Google Drive, Google Sydney, Software Engineering Intern

Nov 2015 - Feb 2016

- Worked on a large existing codebase and on many layers of servers in Java, C++ and JavaScript.
- Improved text overlay processing to reduce latency and asset size, writing about 5000 lines of code.
- Received positive feedback from my manager on my task-focused attitude and my speed in familiarising myself with the codebase and the company workflow.

SKILLS

Languages

Native: English

Intermediate: French

Programming

Intermediate: C, Python (including pandas and NumPy), \LaTeX

Basic: R, HTML, Haskell