

Mathieu Paturel

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Rosebery, Sydney, NSW

Undergraduate UNSW student, double degree in Physics/Software Engineering

## Research Experience

Recipient of the John Lions scholarship

2024, \$15k AUD for software engineering honours thesis

Poster at Symposium on Operating Systems Principles (SOSP '23)

2023, I presented a poster about our seL4 Microkit verification work

Awarded travel scholarship to attend SOSP '23, Koblenz, Germany

2023. The conference lasted a week, and I then took the opportunity to visit different research groups around Europe

- Xavier Leroy's lab at Inria Paris
- Timothy Roscoe's system group at ETH Zurich
- Pramod Bhatotia's group also at Munich's Technical University (TUM) (invited talk)
- Tobias Nipkow's lab at TUM

Published paper at Asia Pacific Workshop on Systems (APSYS '23)

2023. I went to Seoul, Korea to present it

Trustworthy Systems, Research Assistant

2023, Kept working improving Gordian, an SMT based verification tool (similar to Dafny or frama-C).

Trustworthy Systems, \$6000 AUD Taste of Research Scholarship

2023, Worked under the supervision of Zoltan Kocsis on SMT based verification for the seL4 Microkit (née Core Platform). I wrote a tool that emits SMT verification conditions from a program's control flow graph (Gordian).

## Software Engineering Experience

Sublime HQ

2022, Sublime HQ, part-time

Worked on SMT based verification tool (similar to Dafny) (C code base)

Submitting bug fixes on sublime text and sublime merge (C++ code base)

Bug Bounty Award

2018, \$200, high severity bug bounty, issue in <http://dev.to> markdown parsing code that allowed cross-site scripting.

Author of MarkdownLivePreview

2016-2017, it's a Sublime Text plugin I developed and maintained when I was in high school. It reached 200k+ installs

## Awards

### The Faculty of Science Dean's List

2020, for academic excellence

### The Faculty of Engineering

2020, Dean's Award, for the best performance in Year 1, 2 or 3 in the Bachelor of Engineering program

2021, Highly Commended

## Teaching and mentoring

### Teaching Assistant, PHYS1121

2021, University of New South Wales, class of ~50 students. My role was to go around the class, spark conversation amongst students, and guide/help them if they needed it.

### Private Tutor HSC Physics

2020 & 2021, year 12 student.

### Teach Learn Grow, Volunteer Mentor

2021, mentor for rural year 5-6 students. Demystifying high school, talking about the growth mindset and teaching about cybersafety.

2021, mentor for rural year 5-6 students. Talking about road safety.

## Extracurricular

### Regional cross country representative

2019, South Coast

### Start self-teaching programming

2015, python

### Native French speaker. Fluent in English.