

# Mitchell Holt – Curriculum Vitae

mitchellholt.github.io

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## Education

### The University of Queensland

*Bachelor of Mathematics/Bachelor of Computer Science*

**Brisbane, Australia**

Graduated December 2024

- Major in Pure Mathematics
- 6.4 cumulative GPA
- Report on Symbolic Integration in Differential Algebra
- Novel proof of sharp cost bounds in the Bareiss/Edmonds Algorithm
- 2024-2025 AMSI Summer Research Scholarship

## Employment

### The University of Queensland

*Mathematics Tutor.* First and second year discrete maths and calculus.

*Computer Science Tutor.* Third year functional programming.

**Brisbane, Australia**

*July 2023 - present*

*February 2023 - June 2024*

### Xelleron

*Software Engineer (Casual)*

**Brisbane, Australia**

*June 2022 - December 2022*

## Volunteering

### UQ Mathematics Student Society

*Gave talk “Symbolic Integration in Computer Algebra”*

**Brisbane, Australia**

*March 2024*

### UQ Computing Society

*Gave talk “What Even is a Computer Algebra?”*

**Brisbane, Australia**

*August 2024*

### Groves Christian College

*Taught lambda calculus to students (grades 10, 11, and 12)*

**Brisbane, Australia**

*August 2024*

## Programming

### Languages

Haskell, C, Maple, Magma, Java, Python, Javascript, C#

### Operating Systems

macOS, Linux, Windows

## Projects and Experience

*Ideal-adic lifting and rational reconstruction for number rings*

**present**

*Implementation of fast symbolic algebra in the Maple computer algebra system*

**2024 - present**

*High performance FFT polynomial multiplication in C*

**2024**

*Symbolic integration in the Magma computer algebra system*

**2023 - 2024**

*Mixed integer programming with Gurobi*

**2023**

*FOL Theorem-Proof verifier (UQCS hackathon project)*

**2022**

## References

Dr Paul Vrbik – Senior Lecturer at The University of Queensland. [p.vrbik@uq.edu.au](mailto:p.vrbik@uq.edu.au)