Mitchell Holt – Curriculum Vitae

mitchellholt.github.io mitchellholt2002@gmail.com

Education

The University of Queensland — **Brisbane, Australia**
Bachelor of Mathematics/Bachelor of Computer Science — 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

Veitch Lister Consulting — **Brisbane, Australia**
Graduate Software Engineer — *February 2025 - present*

The University of Queensland — **Brisbane, Australia**
Mathematics Tutor. First and second year discrete maths and calculus. — *July 2023 - November 2024*
Computer Science Tutor. Third year functional programming. — *February 2023 - June 2024*

Xelleron — **Brisbane, Australia**
Software Engineer (Casual) — *June 2022 - December 2022*

Talks

UQ Mathematics Student Society — **Brisbane, Australia**
Gave talk "Symbolic Integration in Computer Algebra" — *March 2024*

UQ Computing Society — **Brisbane, Australia**
Gave talk "What Even is a Computer Algebra?" — *August 2024*

Groves Christian College — **Brisbane, Australia**
Taught lambda calculus to students (grades 10, 11, and 12) — *August 2024*

References

Dr Paul Vrbik – Senior Lecturer at The University of Queensland. p.vrbik@uq.edu.au

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 **2024-2025**
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**