Joel Richardson – Curriculum Vitae

joelrichardson.au

Education

The University of Queensland **Brisbane, Australia**
Bachelor of Computer Science (Honours) Graduated July 2024

- Dean's Commendation for Academic Excellence
- Thesis Project on Computer Algebra
- 6.5 GPA[1], Honours Class I

The University of Queensland **Brisbane, Australia**
Bachelor of Mathematics/Bachelor of Computer Science Graduated November 2022

- Major in Pure Mathematics
- 6.3 GPA across honours level courses
- Report on Coxeter Groups
- Report on Quivers

Employment

The University of Queensland **Brisbane, Australia**
Mathematics Tutor *February 2024 - present*
Mathematics Tutor *February 2022 - November 2022*

Veitch Lister Consulting **Brisbane, Australia**
Software Engineer (Casual) *September 2024 - present*
Software Engineer *November 2023 - February 2024*
Graduate Software Engineer *November 2022 - November 2023*

Volunteering

UQ Mathematics Student Society **Brisbane, Australia**
Talk on Simplicial Sets *August 2024*
Talk on Berlekamp's Algorithm *April 2024*

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

Trinity Bay State High School **Cairns, Australia**
Taught lambda calculus to students (grades 11 and 12) *June 2024*

[1]Excluding additional units – I completed an unrequired additional course. 6.375 GPA including this course.

Programming

Languages	Haskell, C, Java, Python, Javascript, MATLAB, Elm, SQL, Dafny
Operating Systems	Linux, OpenBSD, Windows, macOS

Projects and Experience

Compiler/Interpreter Programming	**2021- present**
Mathematics; Theorem verification, Numerical Solvers, Symbolic Algebra	**2022- present**
Computing optimal play of various games, including snatch and wordle	**2016- 2022**
Machine learning; neural networks, genetic algorithms, word2vec	**2017- 2022**
Mixed integer programming with Gurobi	**2021- 2022**
FOL Theorem-Proof verifier (uqcs hackathon project)	**2022**
Non-euclidean rendering with SDF ray marching	**2020- 2021**
Compiler code optimisation	**2021**
Automated software testing; data flow analysis, constraint based analysis	**2021**
Network programming	**2016- 2020**
CPU design and implementation in Minecraft	**2018- 2020**
3D rasterization	**2019- 2020**
OpenBSD kernel programming	**2020**
Formal software verification in dafny	**2020**
Image processing with Processing 3	**2018- 2019**
Game programming with Gamemaker: studio	**2014- 2018**