Joel Richardson – Curriculum Vitae

joelrichardson.au

Education

The University of Queensland   **Brisbane, Australia**
Bachelor of Computer Science (Honours)   Graduation Date: 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   Graduation Date: 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***

- Taught UQ's functional and logic programming course (COMP3400)
- Taught UQ's introductory logic and proof course (MATH1061)
- Taught UQ's introductory calculus and linear algebra course (MATH1051)

Veitch Lister Consulting   **Brisbane, Australia**
Software Engineer   ***November 2023 - February 2024***
Graduate Software Engineer   ***November 2022 - November 2023***

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

Volunteering

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

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[1]Excluding additional units – I completed an extra, unrequired, 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**