

Henry Routson

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Education

The University of Melbourne July 2021 - Nov 2024

Bachelor of Science, Major in Computing and Software Systems

H2A+ (76.250) weighted average mark

Ballarat Grammar

Academic scholarship

VCE: Software Development, Specialist and Methods Mathematics, Chemistry and Physics

Experience

Bet Right, Data Science Intern - 2025 Jan to Mar (flexible end date) - <https://www.linkedin.com/company/bet-right/>

Working with SQL and data visualisation

DSCubed, DS AI team, The University of Melbourne - 2024 Summer - <https://www.dscubed.org.au/>

Working on Retrieval Augmented Generation, Vector databases, LLM frameworks and APIs.

Aerospace and Rocket Engineering Society (ARES), The University of Melbourne - 2023 - <https://www.linkedin.com/company/aresunimelb>

React and Python developer for optimising rocket trajectory.

Queen's College IT support - 2022

Leetcode competitive programming : <https://leetcode.com/u/HenryRoutson/>

Open-source contribution

Cached File Explorer - in rust : <https://github.com/conaticus/FileExplorer/pull/47>

· Fixed poisoned thread issue.

Supabase Auth UI <https://github.com/supabase-community/flutter-auth-ui/pull/108>

· Allowed additional UI configuration options and added documentation.

Llama index : https://github.com/run-llama/llama_index/pull/17393

· In progress merge of multiple bug fixes, new features and improved code quality in notion reader.

Academics

Machine learning (Keras, scikit-learn)

· Created a stacked model including a neural network

AI (Python)

· Implemented game engine and Monte Carlo tree search

IT Project (JavaScript / TypeScript, React, HTML, CSS)

· Increased code quality and redesigned stack visualisation for a Quicksort visualisation

· **Try Here!** <https://dev-aia.vercel.app/>

Models of Computation (Haskell)

· My Haskell code was chosen as the solution for numerous practice problems within a cohort of 600

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Computer Systems (C)

- Functional memory allocator for operating systems
- Multi-threaded web server

Algorithms and Data Structures (C)

- Implemented a Quad-tree, Linked list, Dijkstra and A*

Foundations of Computing (Python)

- Achieved overall 98%, one of the highest marks in the cohort

Personal projects

Scheduling app

- Firebase, Supabase, Flutter, React native, SQL / Postgres, pgTAP, user authentication, Expo, Typescript, cloud functions

Leetcode Competitive Programming <https://leetcode.com/HenryRoutson/>

<https://github.com/HenryRoutson/CHelp> (C)

- Valgrind alternative. Tracks dynamic allocations in C and assists in debugging

<https://github.com/HenryRoutson/autoheader> (Rust)

- Generates header files for C

<https://github.com/HenryRoutson/Soil-value-calculator> (Python)

- Matches fertilisers to soils using vector math

References

(With request)

<https://www.linkedin.com/in/pranavjayanty/>

<https://www.linkedin.com/in/ben-sampson-profile/>