Ronald Chiang

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Education

University of New South Wales February 2022 – Present

B.Sc. in Advanced Mathematics and Computer Science *95 WAM*

- UNSW Science 2022 Dean's List for Academic Excellence (Top 100 Student)
- 100 in COMP2521: Data Structures and Algorithms | 95 in COMP1531: Software Engineering Fundamentals

Experience

Casual Academic February 2022 – Present

UNSW - Computer Science and Engineering *Sydney, Australia*

- Tutor for COMP1531: Software Engineering Fundamentals
- Helped teams of 5 students to develop a back-end through ExpressJS, employing modern TypeScript practices

Mathematics Tutor March 2022 – October 2022

Dr. Du Education *Sydney Australia*

- Lectured classes from 3 to 30+ students ranging from Year 10 to HSC Mathematics
- Tutored students one-to-one and provided a personalised lesson to target weaknesses
- Ran dozens of 8+ hour zoom help sessions for Mathematics and Physics

Extracurriculars

Autonomous Systems Software Developer – UNSW Redback Racing April 2022 – Present

- Worked in a team of 15 to develop a system for autonomous driving in Formula SAE competitions
- Created Python software that generated randomised tracks to test autonomous vehicle systems on
- Worked with ROS Nodes in C++ to parse data from software like FSSIM for testing control systems
- Developed Shell scripts for Bitbucket pipelines to calculate and use code coverage statistics

Education Director – UNSW Mathematics Society March 2022 – Present

- Led a team of 6 to produce events that broadened students' scope of maths
- Wrote materials for and lectured seminars for MATH1081, MATH1241, MATH2621
- Hosted community events to promote mathematics like MathSoc Jeopardy!
- Liaised with industry sponsors to produce events such as Optiver's Piece the Puzzle

Projects

UNSW Beans | *TypeScript, ExpressJS, Jest, GitLab*

- Developed a HTTP back-end server for a messaging application with ExpressJS in TypeScript
- Implemented features including account registration, data encryption, and password resetting via email
- Used the sync-requests module and Jest to create tests for HTTP Responses from the server
- Employed continuous integration through a YAML config file on GitLab for linting, type-checking and testing

CHIP-8 Interpreter | *Python, Pygame*

- Developed an interpreter for the CHIP-8 language as seen on the COSMAC VIP Microcomputer
- Created emulated CPU and memory model with 35 opcode instructions employing the fetch-decode-execute cycle
- Written in Python, employing OOP practices, and emulated a display using Pygame

Conway's Game of Life | *HTML5 Canvas, JavaScript*

- Implemented Conway's Game of Life in JavaScript and rendered in HTML5 Canvas
- Displayed on a grid which users can draw on to create the initial state with a variable generation speed