Nuwin Sooriyaarachchi

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Education

University of Adelaide Adelaide, SA

Bachelor of Software Engineering *Expected November 2027*

- Relevent Courses: Object Oriented Programming (C++), Algorithms and Data Structures, Web and Database Computing, MathsIB, Digital Electronics, Analogue Electronics, Computer Systems

Experience

Rover Team (Gripper End Effector) Jan 2025 – Present

Software Team

- Embedded firmware for robotic gripper using dsPIC microcontroller
- Stepper motor control via driver (A4988) with software position tracking
- DC motor force control using PWM, encoder feedback, and current sensing
- CAN bus communication with Jetson (ROS integration)
- Implemented safety-critical state machine and fault handling

Evaluating Language Models February 2024 – March 2025

Data Annotation *Remote*

- Helped train AI models' performance in coding by creating complex questions in diverse practical areas such as debugging, optimisation, algorithmic thinking, reverse engineering and code generation.
- Would compare and mark various AI models' performances to these questions in various areas such as readability and accuracy
- Ensured high-quality data curation by following strict guidelines and review processes.

Projects

CHIP-8 Emulator | *Embedded C++, OpenGL, SDL3* Nov 2024 – Jan 2025

- Developed an emulator for CHIP-8 programs using C++ in conjunction with SDL3 and OpenGL library, capable of running classic CHIP-8 games and applications.
- Implemented core CHIP-8 functionality, including opcode decoding, memory management and instruction decoding, to ensure a one-to-one emulation.
- Utilised SDL3 and OpenGL to handle rendering graphics and handling user input to provide a smooth retro experience.
- Ensured that each operation code was functioning as intended through extensive testing programs and documentation.

Modern Space Invaders | *C++, SFML* Sep 2024 – Nov 2024

- Worked collaboratively to design, plan and develop a fully Space Inspired Game in C++ using the SFML library.
- Implemented object-oriented programming concepts such as Inheritance, Polymorphism and Encapsulation.
- Constantly tested the code, utilising unit testing to ensure code.

Community & Leadership

Competitive Programming Club Jan 2025 – Present

Events Officer

- Helping to organise and prepare events for the club such as AUCPL (University competitive programming competition).
- Solo competed in AUCPL.

Technical Skills

Languages: Python, C/C++, HTML, CSS, JavaScript
Frameworks: SFML, SDL3, OpenGL, NumPy, Pandas
Developer Tools: Git, Linux, Vim