

Nuwin Sooriyaarachchi

+61 444 534 078 | nuwinsoori@gmail.com | nuwinsoori.com | linkedin.com/in/nuwinsoori | github.com/nuwinsoori

EDUCATION

University of Adelaide

Bachelor of Software Engineering

Adelaide, SA

Expected November 2027

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

- 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

Custom Memory Allocator | C

Feb 2026 – Mar 2026

- Developed a dynamic memory allocator implementing free-list management, block splitting, and coalescing to reduce fragmentation
- Integrated arena growth strategy using mmap to support scalable allocation workloads
- Optimized allocation path to O(1) reuse using size-class bins
- Created benchmarking suite comparing performance vs glibc malloc

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 user input providing a smooth retro experience.
- Ensured that each opcode 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