Gabriel Thien

Undergraduate Mechatronics Engineer @ Asiga 3D Printers
Bach. Mechatronics Engineering/Bach. Computer Science UGRD @ UNSW

0432 411 738
gabriel.thien592@gmail.com
Sydney, NSW Australia
LinkedIn
GitHub Repositories

SUMMARY

Talented and bright-minded student interested in firmware/embedded systems engineering with a background experience in developing electro-mechanical systems, embedded hardware and electronics. Motivated and self-initiated student with a strong technical portfolio to match ranging R&D, prototyping, electronics design and firmware development. Actively engaged in various projects across industry experience and university involvements. Currently looking for future opportunities in mechatronic & firmware engineering.

EDUCATION

UNSW Sydney - (2021 ~ 2025) - 4th Year
Degree: *Bach. Engineering (Mechatronics)/Bach. Science (Computer Science)*
Societies: *UNSW CREATE, UNSW CSESoc, UNSW CompClub*

EXPERIENCE

Undergraduate Mechatronics Engineer

Asiga 3D Printers - (March 2023 - Present)

- Programmed OOP, device drivers, firmware & FreeRTOS software for various IC and embedded MCU applications in C/C++ with git
- Developed PCBs & electronics for electro-mechanical platforms
- Involved electronics design, testing, embedded device programming
- 3D designed UI interfaces, enclosures, jigs and mechanical components
- Created functionality and testing platforms with Python, Arduino, ESP32, Raspberry Pi

Machine Technician

Archie Brothers Alexandria - (June 2022 - October 2022)

- Regular maintenance, fault diagnosis & repair of electro-mechanical systems
- Involved procuring parts, reporting fixes and equipment testing

VOLUNTEERING

UNSW CREATE - *CREATErLabs Projects Director, Treasurer (Sep 2022 - Present)*

- Lead the development of mechatronic systems in project teams through regular sessions
- Managed workflows within the club as an executive, accounting, technical and social leadership

UNSW CompClub - *Internals Subcommitee, Mentor (May 2022 - Present)*

- Taught programming concepts, logical thinking, various languages in workshops for high school students with other teachers & mentors
- Coordinated workflows teaching strategies, content creation & classroom leadership

PROJECTS

Automation & Mechatronics Projects @ Asiga 3D Printers

- Developed prototype hardware & software, QC & assembly tooling for production

Robotic Arm

- Self designed robot arm chassis hardware, electronics and closed loop control software
- Involved inverse kinematics, motor control software, control UI, microcontroller electronics
- Developed using ESP32 microcontrollers and self developed PCBs

Custom IoT Automation Development Platform

- Developed modular nodes housing microcontrollers, screens, motors, communication modules

Autonomous Droid Racing Challenge @ QUT

- Developed autonomous computer vision navigated racing car for inter-university competition

Competitive Robotics @ RoboCup Junior Australia

- Team lead on engineering & testing of autonomous competitive robots with various sensors and interactive mechanisms
- Involved strategizing around constraints, optimising for performance
- NSW State & Australian National Finals 2017-2019. International 2019

QUALITIES

Strong collaboration, teamwork, leadership skills

Motivated, self-managing with workload, capable of working independently

Proactive, forward thinking work ethic

Strong communication, presentation, networking skills

Outgoing, friendly, approachable personality

TECHNICAL SKILLS

C, C++, Python, Java, SQL
Object Oriented Programming
HTTP, JUnit, blackbox testing

Agile Development, Git, Postman

Linux & automation software

Embedded software, FreeRTOS , MCU application development in C/C++, Arduino, Espressif, STM32 frameworks

PCB design, electronics circuitry design, TH & SMD soldering, testing & debugging

3D CAD, 3D printing, laser cutting, hands on workshop skills

PC building & installation, desktop support

HOBBIES & INTERESTS

Bouldering, rock climbing, hiking

Jigsaw puzzles, Gundam, Mahjong

IoT smart home electronics