



# Gabriel Thien

Student Firmware Engineer @ Cochlear

Bach. Mechatronics Engineering/Bach. Computer Science UGRD @ UNSW

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## SUMMARY

Penultimate student focused on firmware/embedded systems with demonstrated experience in developing electro-mechanical systems, firmware and embedded electronics. Motivated and self-initiated with a strong technical portfolio to match ranging R&D, prototyping, electronics, firmware and software tooling. Open to opportunities in mechatronics & embedded systems.

## EDUCATION

UNSW Sydney – (2021 ~ 2025) – 5th Year

**Degree:** B. Engineering (Mechatronics)/B. Science (Computer Science)

**Societies:** UNSW CREATE, UNSW CSESoc, UNSW CompClub

## EXPERIENCE

### Student Firmware Engineer

Cochlear – (Nov 2024 – Present)

- Involved in tools & infrastructure DevOps projects for embedded software platforms
- Developed a stack analyser for optimising memory usage in constrained ASICs
- Helped reduce memory-related issues during product development, saving developers time
- Involved architectural thinking, programming with .NET, C, MicroPython

### Undergraduate Mechatronics Engineer

Asiga 3D Printers – (March 2023 – Nov 2024)

- Involved C device driver programming, FreeRTOS firmware for embedded MCU applications
- Developed electronic, PCBs, 3D printed components for jigs & tooling
- Created verification and testing platforms with Python (OOP), Arduino, ESP32, Raspberry Pi

### Machine Technician

Archie Brothers Alexandria – (June 2022 – October 2022)

- Regular maintenance, fault diagnosis & repair of electro-mechanical systems

## 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 Subcommittee, 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, systems design, QC & manufacturing tools

### Embedded Software Tools & Infrastructure @ Cochlear Ltd

- Developed programming tools for streamlined embedded software development & testing

### 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*

*Strong communication, presentation, networking skills*

*Outgoing, friendly, approachable personality*

## TECHNICAL SKILLS

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

*Agile Development, Git, Postman*

*Linux, PLC programming, Qt software development*

*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*