

Gabriel Thien

B. Mechatronics Engineering/B. Computer Science Undergraduate at UNSW. Dedicated and passionate student interested in embedded devices, automated systems and robotic software development. Self-driven student who loves tinkering around in the workshop, above average technical skills with experience in prototyping solutions and technician work. Highly involved in various technical projects & endeavours at university. Currently looking for casual or part-time administrative/technician/prototyping work or internships in mechatronics/software engineering.

Highlight technical & soft skills from various commitments throughout academic career:

- Product development, problem solving, design, prototyping, testing in STEM and enterprise competitions (nationally & internationally since 2017)
- Software development with Python & Java, HTTP testing with Postman, JUnit testing, embedded development with C, C++ & Arduino
- Mechanical & electronics design CAD & prototyping
- Hands on workshop tooling, assembly & testing electronic devices
- Pitching, collaboration, presentation, networking and communication skills across all involvements

EDUCATION

UNSW, Kensington – Undergraduate, 2021~2025

Degree: B. Mechatronics Engineering /B. Computer Science

Societies: Engineering Society (EngSoc), Computer Science & Engineering Society (CSESoc), CompClub, UNSW CREATE

Fort Street High School, Petersham – 2015~2020

ATAR: 96.90

Involvements: FSHS Robotics, FSHS F1 in Schools, Student Workshop

EXPERIENCE

• Machine Technician @ Archie Brothers Alexandria (06.22 ~ 10.22)

- Fault diagnosis & repair of various electrical, mechanical systems
- Fault finding, equipment testing and verification, reporting
- Parts procurement, replacement & servicing
- Regular maintenance, on-call technical support

• Design & Prototyping Engineer (Mechanical & Electrical)

- UNSW Offworld Robotics (Nov 2021~Aug 2022)
- UNSW Redback Racing (Nov 2021~Aug 2022)
- UNSW Illuminate (Sept 2021~June 2022)

• Self-Employed PC Builder (01.21 ~)

• Self-Employed Tutor (06.21 ~ 12.21)

VOLUNTEERING EXPERIENCE

• CreaterLabs Projects Director @ UNSW Create (09.22 ~ Present)

- Founder & director of engineering projects division
- Management of workflows, coordinating meetings, liaison with sponsor companies
- Projects involving robotics, drones & automated systems, mechanical systems, mechatronics, software development, computer vision

• Coding Mentor @ UNSW CompClub (05.22 ~ Present)

- Teaching introductory code, logical thinking, program control in programming workshops for high school students

• Peer Mentor @ UNSW EngSoc & CSESoc (01.22 ~ Present)

- Social leadership in helping new uni students, organising bonding events, providing general support, promoting uni culture



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[Linkedin](#)

[Projects Portfolio](#)

SKILLS & QUALITIES

Self-driven learner, highly organised and motivated

Takes initiative & maintains highly transparent communication

Involved in university community, team based work, volunteering, leadership positions

Strong communication, presentation, networking, collaboration skills

Outgoing and friendly personality

Product development, ideation, procuring solutions

Computer literate, AV/desktop support & installation

TECHNICAL SKILLSETS & FAMILIAR TECHNOLOGIES

Programming experience

- C, C++, Python, Java, Arduino
- Object Oriented Programming
- HTTP, JUnit testing
- Agile Development, Git, Postman

Delicate hands on work, PCB design & testing, electronics, soldering, debugging, repair, assembly & maintenance

3D CAD, rapid prototyping, 3D printing, laser cutting, workshop assembly skills

Fault finding & diagnosis, electronics repair and assembly

PC building & installation, desktop support

FAMILIAR SOFTWARE

Autodesk Fusion 360, EAGLE, Inventor, Solidworks

Ultimaker Cura, Adobe Suite

Visual Studio Code, Postman, Webots Simulation Software

Arduino, ESP32 microcontrollers

PROJECTS

[Link to Projects Portfolio](#)

- **[Cafeteria Software Simulation](#) (09.22 ~ 11.22)**
 - Designed a cafeteria simulation in C++ involving customers, staff and their simulated interactions in states
 - Customers ordering, staff executing transactions, outputting an account book with successful transactions
- **Dungeonmania Game (09.22 ~ 11.22)**
 - Developed backend functionalities in Java for a simple pixel retro game with OOP
 - Designed entity objects, interactions and game mechanics
- **Autonomous Droid Racing Challenge @ QUT (05.22 ~ 07.22)**
 - Project lead on electronics, strategy and computer vision
 - Developed autonomous vehicle racing car, bang-bang algorithm used for navigation on a processed camera video feed
- **[Streams Backend](#) (Microsoft Teams mockup) (02.22 ~ 04.22)**
 - Developed backend functionalities for a mockup of Microsoft Teams using Python
 - Used Python flask module to host a mini web server, Postman for HTTP testing, pytest for functionality testing
 - Implemented various features of Microsoft Teams such as user permissions, authentication, persistence, channels, posts/messages, profile pictures, file storage
- **Motorised Camera Mount Solution @ UNSW Offworld Robotics (2021)**
- **Competitive Robotics @ RoboCup Junior (2017-2019)**
 - Team lead on design, engineering, testing of autonomous competitive robots with various sensors and interactive mechanisms
 - Involved mechanical/electronics assembly, 3D printing, laser cutting, manual dexterity, workshop hand tools
 - NSW State & Australian National Finals 2017-2019. International 2019.
- **Competitive Product Development @ F1 in Schools (2018 - 2019)**
 - Lead design, manufacturing of model racing F1 cars
 - Regional, State and National Finals @ Melbourne 2019

HOBBIES & INTERESTS

- Bouldering, rock climbing, hiking & camping
- Enthusiast PC building, parts procurement & IT setup
- Jigsaw puzzles, Lego, programming simulations
- 3D printing, CAD modelling, drone building
- IoT, smart home electronics (eg. home server,)

AWARDS & ACHIEVEMENTS

- Australian Defence Force Award for STEM Youth Leadership (Databased)
- The Michael Kirby & John Singleton Prize for Originality, Leadership, Representation
- University of Melbourne, Dean of Engineering Award for Best Robot Design & Innovation
 - Best custom robot design in mechanics, electronics & programming
 - RCJ Australian Finals 2019
- Innovation Award in Robot Design
 - RCJ NSW Finals 2018 & 2019
- 10th Place F1 in Schools STEM Competition
 - Progressed through to regional, state and national Australian finals @ Melbourne

REFERENCES

- Adam Semaan (Teacher/mentor) ... 0431 592 294
- Xavier Cooney (Competitive robotics teammate/4 years) ... 0443 239 536
- Alexander Lovatt (Head Technician @ Archie Brothers) ... 0411 302 569