# 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 with above average technical skills and proven experience in prototyping solutions. Highly involved in various technical projects & endeavours at university. Currently looking for casual or part-time technician/prototyping/product development 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

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Projects Portfolio: myTechnicalPortfolio.drive

## 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 ~ )**

- **CreaterLabs Projects Director @ UNSW Create (09.22 ~ Present)**

## VOLUNTEERING EXPERIENCE

  - *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*

## SKILLS & QUALITIES

*Self-driven learner, highly organised and motivated*

*Takes initiative & maintains highly transparent communication*

*Involved in university community, from team based technical work and volunteering to leadership positions*

*Strong communication, presentation, networking, collaboration skills*

*Easygoing and friendly personality*

*Product development, ideation, procuring solutions*

*Computer literate*

## 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*

*PC building & installation*

## FAMILIAR SOFTWARE

*Autodesk Fusion 360, EAGLE, Inventor*

*Solidworks*

*Ultimaker Cura, Adobe Suite*

*Visual Studio Code, Postman, Webots Simulation Software*

*Arduino, ESP32 microcontrollers*

## PROJECTS

Portfolio: myTechnicalPortfolio.drive

- **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 for a simple pixel retro game with OOP in Java*
  - *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*

- **Motorised Camera Mount Solution @ UNSW Offworld Robotics (2021)**

- **Competitive Robotics @ RoboCup Junior (2017-2019)**
  - *Team lead on design & engineering of autonomous competitive robots with various sensors and interactive mechanisms*
  - *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*

## 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

## HOBBIES & INTERESTS

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

## REFERENCES

- *Adam Semaan (Teacher/mentor) ... 0431 592 294*
- *David Patane (Teacher/mentor) ... 0416 074 289*
- *Xavier Cooney (Teammate/4 years ) ... 0443 239 536*