

# 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

## 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

### • CreatorLabs 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



M: 04-32411738

E: gabriel.thien592@gmail.com

LinkedIn: [linkedin.com/in/gabriel-thien-629146160](https://www.linkedin.com/in/gabriel-thien-629146160)

Projects Portfolio: [myTechnicalPortfolio.drive](https://myTechnicalPortfolio.drive)

## 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](https://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, programming simulations
- 3D printing, CAD modelling, drone building
- IoT, smart home electronics (eg. home server, )

## REFERENCES

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