

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
- Workshop tooling, assembly & testing
- 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

Subjects: Maths Extension 1 & 2, Physics, Chemistry, Engineering Studies, English Advanced

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 ~)

• STEM Tutor @ Fort Street Robotics (11.19 ~ 12.20)

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



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Projects Portfolio: myTechnicalPortfolio.drive

SKILLS & QUALITIES

Self-driven learner, highly organised

Takes initiative & highly transparent

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

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, Rhino, 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