Gabriel Thien

Junior Mechatronics Engineer @ Asiga 3D Printers (Part-Time)
B. Mechatronics Engineering/B. Computer Science UGRD @ UNSW

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Sydney, NSW Australia

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SUMMARY

Tech-passionate student interested in embedded devices, automated systems and robotic software development. Loves tinkering in the workshop, researching and prototyping solutions. Highly involved in various technical projects & endeavours at university. Currently looking for internships in mechatronics/software engineering.

EDUCATION

UNSW, Kensington - Undergraduate, 2021~2025
WAM*: Credit average*
Societies: *Computer Science & Engineering Society (CSESoc), UNSW CompClub, UNSW CREATE*

Fort Street High School, Petersham - 2015~2020
ATAR*: 96.90*
Involvements*: FSHS Robotics, FSHS F1 in Schools, Student Workshop*

EXPERIENCE

Junior Mechatronics Engineer @ Asiga 3D Printers (03.23 ~ Present)
- *Designed & tested prototype electronics for upcoming products*
- *Developed software for prototype electronics*
- *Developed reliability testing platforms for current & upcoming products*
- *Involved product development, client analysis, edge cases*
- *Provided engineering support for senior engineers*

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*

Self-Employed PC Builder (01.21 ~)
Self-Employed Tutor (06.21 ~ 12.21)

VOLUNTEERING

CREATErLabs Projects Director @ UNSW CREATE (09.22 ~ Present)
- *Founder & director of engineering projects division*
- *Managing workflows, coordinating meetings, liaison with sponsor companies*
- *Directing projects involving robotics, drones & automated systems, mechanical systems, mechatronics, software development, computer vision*

Internals Subcommittee & Mentor @ UNSW CompClub (05.22 ~ Present)
- *Teaching introductory code, programming concepts, logical thinking, program control in workshops for high school students*
- *Organised slides, coordinated teaching strategies & content retention, classroom leadership*

Peer Mentor @ UNSW CSESoc, UNSW EngSoc (01.22 ~ Present)
- *Social leadership amongst uni students, new students*
- *Organised bonding events, provided general academic support, promoting uni culture*

SKILLS & QUALITIES

Self-driven learner, motivated & dedicated worker

Forward thinking, takes initiative

Involved in university community

Teamwork, leadership, mentorship

Adaptive listening

Strong communication, presentation, networking, collaboration skills

Outgoing & friendly personality

Product research & development

TECHNICAL SKILLS

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

Embedded software development in C, C++, Arduino & ESP-IDF frameworks with PlatformIO IDE

Microcontroller experience with Arduino, ESP32, Raspberry Pi

Electronics & PCB design, electronics, soldering, testing & debugging

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

Hands on workshop tooling, assembly, device testing, fault diagnosis

PC building & installation, desktop support

REFERENCES

- ***Adam Semaan*** *(Teacher/mentor) ... 0431 592 294*
- ***David Patane*** *(Teacher/mentor) ... 0422 989 027*
- ***Xavier Cooney*** *(Competitive robotics teammate/4 years) ... 0443 239 536*
- ***Manit Anand*** *(Competitive robotics teammate/3 years) ... 0402 934 641*
- ***Kushagra Javeri*** *(Competitive robotics teammate) ... 0424 294 631*
- ***Nemat Bhullar*** *(Project Teammate) ... 0490 120 843*

PROJECTS

GitHub

- **Various projects @ Asiga 3D Printers (03.23 ~ Present)**
  - *Developed prototype hardware & software for current & upcoming products*
- **Bicopter Drone (01.23 ~ Present)**
  - *Managed a student-led project involving CAD, motor electronics, software control systems*
- **Cafeteria Software Simulation (09.22 ~ 11.22)**
  - *Designed a C++ cafeteria simulation of customers, staff, transactions & interactions*
- **Dungeonmania Game (09.22 ~ 11.22)**
  - *Developed backend for a pixel retro game with OOP, details in repo*
  - *Designed entity objects, interactions and game mechanics*
- **Autonomous Droid Racing Challenge @ QUT (05.22 ~ 07.22)**
  - *Competed at inter-university event @ QUT Brisbane*
  - *Developed autonomous vehicle racing car, bang-bang algorithm used for navigation on a processed camera video feed*
- **Streams Backend (02.22 ~ 04.22)**
  - *Developed backend functionalities for a mockup of Microsoft Teams using Python*
  - *Used Python flask to host a mini web server, Postman for HTTP testing, pytest for unit testing*
- **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)**

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
  - RoboCup Sydney 2019

HOBBIES & INTERESTS

- *Bouldering, rock climbing, hiking & camping*
- *Enthusiast PC building*
- *Jigsaw puzzles, Lego, programming simulations*
- *3D printing, CAD modelling, drone building*
- *IoT, smart home electronics (eg. Spider robot, drones, virtual USB)*