Gabriel Thien

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

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Sydney, NSW Australia

LinkedIn Profile

GitHub Portfolio

SUMMARY

Tech-passionate student interested in embedded devices, computer vision, IoT and automated robotic systems. Highly dedicated student with 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 Sydney - Undergraduate, 2021~2025
Degree: *Bach. Mechatronics Engineering/Bach. Computer Science*
Societies: *Computer Science & Engineering Society (CSESoc), UNSW CREATE, UNSW CompClub*

EXPERIENCE

Undergraduate Mechatronics Engineer @ Asiga 3D Printers (March 2023 ~ Present)
- *Developed prototype & proof of concept sensors, electronics and systems*
- *Designed and wrote driver control software for embedded platforms*
- *Created reliability testing & tooling platforms for current & upcoming products*
- *Involved robotic automation and product development*

Machine Technician @ Archie Brothers Alexandria (June 2022 ~ October 2022)
- *Fault diagnosis & repair of various electrical, mechanical systems*
- *Fault finding, reporting, equipment testing and verification*
- *Parts procurement, replacement & servicing*
- *Regular maintenance, on-call technical support*

VOLUNTEERING

CREATErLabs Projects Director, Treasurer @ UNSW CREATE (September 2022 ~ Present)
- *Managing teams' 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 (May 2022 ~ 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, EngSoc (January 2022~ Present)
- *Social leadership amongst uni students, new students*
- *Organised bonding events, provided general academic support, promoting uni culture*

PROJECTS

Various Product Development Projects @ Asiga 3D Printers (March 2023 ~ Present)
- *Developed prototype hardware & software, QC & assembly tooling for production*

Computer Vision Subject Detector (June ~ August 2023)
- *Developed traditional & deep learning methods for detecting penguins & turtles in a dataset*
- *Implemented various image processing techniques for an overall 80% accuracy*
- *Used OpenCV Python*

Autonomous Droid Racing Challenge @ QUT (May 2022 ~ July 2023)
- *Developed autonomous computer vision navigated racing car for inter-university competition*

Competitive Robotics @ RoboCup Junior (2017 ~ 2019)
- *Team lead on engineering & testing of autonomous competitive robots with various sensors and interactive mechanisms*
- *Involved mechanical/electronics assembly, 3D printing, laser cutting, workshop hand tools*
- *NSW State & Australian National Finals 2017-2019. International 2019.*

(More projects detailed in GitHub Portfolio & Repositories)

QUALITIES

Empathetic, understanding, easy going and supportive individual

Strong collaboration, teamwork, leadership skills

Motivated, self-managing with workload, capable of working independently

Proactive, forward thinking work ethic

Strong communication, presentation, networking skills

Outgoing, friendly, approachable personality

TECHNICAL SKILLS

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

Computer Vision with OpenCV

Embedded software development in C, C++, Arduino, ESP32, STM32 frameworks with PlatformIO

Microcontroller electronics experience with Arduino, ESP32, Raspberry Pi

PCB design, prototyping electronics, circuit design, soldering, testing & debugging

3D CAD, 3D printing, laser cutting, hands on workshop skills

PC building & installation, desktop support

HOBBIES & INTERESTS

Bouldering, rock climbing, hiking & camping

Enthusiast PC building

Jigsaw puzzles, Lego, Gundam

3D printing, IoT, smart home electronics

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Bicopter Drone & Spiderbot (January 2023 ~ Present)

- *Involved in student-led projects involving CAD, motor electronics, software control systems*

Cafeteria Software Simulation (September ~ November 2022)

- *Designed a C++ (OOP) cafeteria simulation of customers, staff, transactions & interactions*

Dungeonmania Game (September ~ November 2022)

- *Developed backend for a pixel retro game with OOP*
- *Designed entity objects, interactions and game mechanics*

Autonomous Droid Racing Challenge @ QUT (May 2022 ~ July 2023)

- *Competed at inter-university event @ QUT Brisbane*
- *Developed electronics for autonomous vehicle racing car, bang-bang algorithm used for navigation on a processed camera video feed*

Motorised Camera Mount System (UNSW Offworld Robotics) (2021)

Competitive Robotics @ RoboCup Junior (2017 ~ 2019)

- *Team lead on engineering & testing of autonomous competitive robots with various sensors and interactive mechanisms*
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