Gabriel Thien

Undergraduate Mechatronics Engineer @ Asiga 3D Printers
Bach. Mechatronics Engineering/Bach. Computer Science UGRD @ UNSW

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LinkedIn
GitHub Projects

SUMMARY

Tech-passionate student pursuing IoT and automated robotic systems, embedded systems and ML applications. Highly initiated student who loves making with a strong technical portfolio to match. Actively involved in various technical projects (details found on GitHub) from both industry experience and university involvements. Currently looking for the next internship opportunity in automation and mechatronics engineering.

EDUCATION

UNSW Sydney - Undergraduate, 2021 ~ 2025
Degree: *Bach. Engineering (Mechatronics)/Bach. Science (Computer Science)*
Societies: *UNSW CREATE, UNSW CSESoc, UNSW CompClub*

EXPERIENCE

Undergraduate Mechatronics Engineer

Asiga 3D Printers - (March 2023 - Present)

- Developed prototype sensors, PLCs, control systems, jigs, electronics
- Involved top down development, mech design, electronics setup and testing, designing and writing driver motor and sensor control software
- Created reliability testing & internal tooling platforms for current & upcoming products

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, mentoring, coordinating meetings
- Directing projects involving robotics, drones & automated systems, mechanical systems, mechatronics, software development, computer vision

Internals Subcommitee, Mentor

UNSW CompClub - (May 2022 - December 2023)

- Taught programming concepts, logical thinking, program control in workshops for high school students
- Coordinated workflows teaching strategies, content creation & classroom leadership

PROJECTS

Automation & Mechatronics Projects @ Asiga 3D Printers

- Developed prototype hardware & software, QC & assembly tooling for production

Robotic Arm

- Self designed robot arm chassis hardware, electronics and closed loop control software
- Involved inverse kinematics, motor control software, control UI, microcontroller electronics
- Developed using ESP32 microcontrollers and self developed PCBs

IoT Automation Bed

- Developed modular nodes housing motor controllers, screens, LED strips, ESP32 core nodes

Autonomous Droid Racing Challenge @ QUT

- Developed autonomous computer vision navigated racing car for inter-university competition

Competitive Robotics @ RoboCup Junior Australia

- Team lead on engineering & testing of autonomous competitive robots with various sensors and interactive mechanisms
- Involved strategizing around constraints, optimising for performance
- NSW State & Australian National Finals 2017-2019. International 2019

QUALITIES

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

Enthusiast PC building

Jigsaw puzzles, Lego, Gundam, Mahjong

3D printing, IoT, smart home electronics