

Matthew Clout

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Profile Info

Experienced mechatronics engineer with a passion for robotics and programming. Enjoys hands-on tasks and problem-solving, with a strong foundation in electrical control systems and a keen interest in robotics. Excellent analytical and critical thinking abilities, as well as a strong work ethic and ability to work independently and as part of a team. Values continuous growth and development, with current interests in expanding robotics, algorithms, and programming knowledge.

Technical Skills

- 3D modelling using SolidWorks and Inventor
- Robotics
- C++ programming
- Python programming
- Microsoft Office
- ROS - Robotic Operating System
- 3D Printing
- Electrical drawings using Capital Electra X
- PLC programming; ladder logic and logic gates
- Web development using JavaScript/TypeScript, React.js, Tailwindcss, and Next.js
- PostgreSQL database, Prisma

Hands-on Skills

- Hand and power tool experience
- Reading electrical diagrams
- Electrical wiring
- Soldering
- Site experience/field trials

Licences

- Supervisor certificate - Electrician
- NSW driver's Licence, Class C

Relevant Experience

Robotics Tutoring 2018, 2023 University of Technology | Sydney

- Casual academic tutor for students in the subjects Robotics and Mechatronics 1
- Contributed to teaching students in collaborative classrooms
- Marking student assignments, including SWMS and RA
- Online/Video marking to understand the retained knowledge of the students
- Creating learning material for students to use

Mechatronics Engineer 2016 - 2023 SABRE Autonomous Solutions | Sydney

- Lead designer of electrical control systems for the robotic sand blasting machine; Alpha 1
- Designed and modified electrical safety systems to meet Australian standards.
- Designed and prototyped mechanical solutions to ensure the robot could operate in industrial sand blasting environments using SolidWorks and Inventor.
- Manage the Sabre team through field trials and work closely with clients to ensure smooth operations.
- Trained clients to use the robotic system in the field.
- Communicated with clients to further improve on the product with their input.
- Integrated the Alpha 1 robotic system into a 3 axis maneuverable system to reach an area of 5m x 3m x 5m.
- Commissioned Alpha 1 for Spence corrosion for tank blasting applications in Canada.
- Successfully demonstrated robotic blasting technology at BAE for ship hull blasting.

Being part of a small team, I was constantly involved in many aspects of the business including programming, accounting, designing, prototyping, testing, and trials with clients.

Electrician 2012 - 2014 Subcontractor | Sydney

- Installed, maintained, and repaired electrical and data systems for commercial, and industrial facilities.
- Proficient in reading and interpreting electrical drawing, and diagrams, with knowledge of local and national electrical standards and regulations.

Relevant Education

Bachelor of Engineering, Mechanical & Mechatronics 2013 - 2018

University of Technology | Sydney

- Graduated with a Bachelor of Engineering degree in Mechanical & Mechatronics with first class honours.
- Obtained skills in designing, building, and testing systems that integrate mechanical, electrical, and software components.
- Obtained skills in programming languages such as C++, Python, and MATLAB.
- Experience obtained in using SolidWorks for 3D modelling, simulation, and analysis.

Advanced Diploma of Electrical Engineering & 2011 - 2012
Advanced Diploma of Industrial Electronics and Control
Engineering

TAFE NSW | Granville

Graduated with two Advanced Diplomas involving electrical engineering. Obtained skills in PLC's, power distribution, control systems, electronics, and embedded programming.

References

William Aguilar
SABRE Autonomous Solutions
Engineering Manager

Damian Williams
SABRE Autonomous Solutions
CEO

Daniel Cumming
Personal Reference

Contact details for references available upon request.