
Marcus Hickel

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Education & Qualifications

Bachelor of Engineering (Honours) in Mechanical Engineering 2023
Diploma in Professional Engineering Practice
University of technology Sydney

Radiocommunications Licence Exp. 2024
Apparatus Licence - Amateur (Foundation)

NSW Responsible Service of Alcohol & Responsible Conduct of Gambling 2015 - 2025

NSW Security Clearance & Explosives License Exp. 2027

Employment

Mechanical Engineer Jan 2022 – Jul 2023
Sperospace, Sydney

- Design and manufacturing of prototype gripper for robotic arms in orbital servicing and manufacturing.
- Writing documentation for Critical design reviews, standard operating procedures, and Risk management plans.

Team Lead Jan 2023 – Dec 2023
UTS Rocketry Team, University of technology Sydney

- Coordination of Team members into the completion of projects.
- Acting as the point of contact from the Team to UTS Faculty and external sources.
- Organisation of low to high powered launch fieldtrips.
- Teaching of low powered rocketry to new members.

Mechanical Lead Jan 2022 – Dec 2022
UTS Rocketry Team, University of technology Sydney

- Oversaw and organised the work of the Teams Mechanical tasks.
- Provided assistance, academic support, training, inductions and upskilling.

Support of the Fatigue Testing Team Jan 2020 – May 2020
SIEMENS Mobility GmbH, Graz, Austria

- Developed a new standard set of parts and configurations to be used with the fatigue testing rig.
- Performing FEA and fatigue calculations utilising MATLAB and Creo.
- Communicated and presented to colleagues in German.

Machine Operator

Oct 2021 – Jan 2022

Solutions in Plastic Pty Ltd, Gladesville

- Operation of Manual Lathe.
- Programming of CNC Lathe utilising Fusion 360 CAM.

Bartender, Gaming Attendant, Cashier

Dec 2016 – Dec 2019

Maroubra Seals Ltd, Maroubra

June 2020 – Dec 2022

- Calm and concise communication with patrons during peak times.
- Maintenance and repair on gaming machines.

Technical Skills

Computer Aided Drafting

- Solidworks, Fusion 360, Creo PTC.

Manufacturing

- 3D printing (FDM, SLS), CNC & Manual Lathe, CNC & Manual Mill, Laser Cutting.

Graphics Editor

- GNU Image Manipulation Program (Raster), Inkscape (Vector).

Word Processors, spreadsheet and presentation

- Microsoft Word, Excel, PowerPoint.

Programming

- MATLAB, C++, Lua, HTML, Python.

Notable Activities

UTS Rocketry Team

- UTS Rocketry Team Lead for 2023.
- Competed in the international Spaceport America Cup Competition 2023.
- UTS Rocketry Mechanical Lead for 2022.
- Mechanical Officer for Team Rocket 'Unity'.
- Designed, Built and flown Level 1 Certified High power Rockets.
- Organised Logistics and Operations of Low to High Powered Launches.
- Developed 'Rocketry 101' course to facilitate the training for new members.

Warman Competition

- As a team leader, designed and built a prototype robot to collect, hold and transfer vessels.
- Made use of Laser CNC as well as traditional hand manufacturing methods.
- Programming an Arduino to control a stepper motor for a winch system.

Engineers without Borders program

- Designed a windmill pump & water battery to provide a sustainable electrical power solution to the Mayukwayukwa refugee settlement with simple maintenance and built from nearby resources.

Transferable Skills

Communication	Communication within the workplace in a professional manner proving patrons and staff with detailed answers to questions or issues.
Teamwork	Working within teams on Engineering without borders projects, university teams and workplace environments. Setting up open communication channels where teammates are always on the same page and workload is distributed evenly and towards each individual's strength.
Problem Solving	Using Methods and processes in the analysis of an issue. Fine turning the best solution for known problems and using ingenuity to solve new ones.

References

Available Upon Request