

THOMAS BANNERMAN

Aerospace Engineering and Physics | The University of Sydney

✉ tban4122@gmail.com

☎ +61 484 355 788

🌐 www.linkedin.com/in/tombannerman



PROFESSIONAL SUMMARY

I'm inspired to create a better world with the use of intelligent systems and automation. I have a passion for analysing and solving difficult problems using First Principles thinking and applying my engineering knowledge. I believe that automation will not only save lives but continue to make our world a safer, wealthier and exciting place to live.

EDUCATION

2018 – 2023 **The University of Sydney Aerospace Engineering Scholarship**
Bachelor of Aeronautical Engineering Honours (Space) and Bachelor of Science (Physics)

Throughout my course I have learnt and practiced the following,

- Aircraft/Spacecraft Design and Manufacturing
- CAD and Manufacturing Methods
- Simulation, Modelling and Data Analysis (Python and MATLAB)
- Computer Vision, System Dynamics, Control and Automation
- Experimental Design and Implementation
- Orbital Mechanics, Space Environmental Testing
- Aerospace Propulsion, Structures and Aerodynamics
- Electrodynamics, Optics, Quantum Mechanics

WORK EXPERIENCE

2020 – 2023 **Defy-Hi Robotics**

Mechatronics Engineer

Responsibilities included conceptual design, CAD, production of AS1100 drawings, manufacturing with FDM 3D printers, hand tools, liaising with manufacturers and onsite machine shop, component assembly, systems engineering, digital circuit and PCB design, subsystem and full system testing and validation.

2019 – 2020 **Sperospace**

Mechanical Engineer and Co-founder

Designing, building and operating robotic systems for use in a space environment. As a co-founder I also had a responsibility to build up a business model and participated in the CSIRO Connect Program to accelerate our development.

EXTRA CURRICULAR ACTIVITIES

2020 – 2022 **The University of Sydney Perovskite Research Group**

Space Environment Testing of Perovskite Solar Cells

Investigated the effects of the harsh space environment on Perovskite Solar Cells (PSCs). Identified materials and techniques that could be used to optimise the current solar cells to the space environment. Researched and published (3rd Author) on the potential for PSCs in the space market (satellites, Moon, Mars) including both technical and economic factors.

2018 – 2020 **The University of Sydney Space Society Rover Team**

President and Engineer

Founded the Space Society and fostered the growth of the society. As chief engineer oversaw design and integration of subsystems including drive-base, software, science and electrical. Designed and manufactured the integrated wheel assembly for the rover.

2016 – 2018 **FIRST Robotics Competition (FRC)**

Curtin University Team 5663 Ground Control

Design, build, test and compete with teams in a global robotics engineering competition. Competed and qualified for world championship in 2016, 2017 & 2018

PROJECT SKILLS

Agile Methodology
Creating Requirements
BOM Management
AS1100 Drafting
JIRA

HANDS ON SKILLS

3D Printing (FDM)
Soldering/Wiring
DIY Electronics
Hand/Power Tools
CNC Laser Cutting
Fibre glassing
Raspberry Pi
Prototyping

SOFTWARE

Linux, Mac, Windows
MATLAB (5+ yrs)
Simulink (2+ yrs)
SOLIDWORKS (4+ yrs)
Onshape (3+ yrs)
Autodesk Inventor
LaTeX (4+ yrs)
Python
Arduino
ROS2
KiCad (PCB Design)
Office Suite
Terminal

HOBBIES

SCUBA Diving
Film Photography
Making things



REFERENCES

Prof. Anita Ho-Baillie

John Hooke Chair of Nanoscience
Sydney Nanoscience Hub
School of Physics Faculty of Science
University of Sydney
T: +61 2 8627 8916
E: anita.ho-baillie@sydney.edu.au

Luke Bouttell

Mechanical Engineer and Project Manager
T: +61 466 103 906
E: luke.bouttell@gmail.com

Sebastian Restrepo

Mechanical Engineer
Vexev
T: 0452 595 725
E: trestrepo@gmail.com