WILL BORDEN

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PERSONAL STATEMENT

Driven and passionate student with a strong background in electronic systems and PCB design. Experienced in taking designs from concept to tested hardware, collaborating on multidisciplinary teams, and solving real-world engineering problems. Looking to apply and broaden my existing knowledge and experience in an innovative and multidisciplinary setting.

EDUCATION

The University of Melbourne *February 2022 – October 2027*
B.S. in Electrical Engineering Systems
Diploma in Languages – French
Commencing MEng (Electrical Engineering) in 2026
2023 Dean's Honours list (awarded to top 3% of cohort)

The University of Bordeaux *August 2024 – December 2024*
Diploma in Languages – French
Academic exchange through the University of Melbourne

Virtual School Victoria *February 2020 – November 2021*
Victorian Certificate of Education
Graduated dux of cohort

EXPERIENCE

Melbourne Space Laboratory July 2025 – Present
Research Assistant - Electronics Engineering *Melbourne*

- Performed end-to-end design, manufacturing, and testing of the thermal control unit for an Australian Space Agency / NASA-built lunar rover, including the EM, EQM, and FM hardware.
- Designed and manufactured complex, EMI compliant PCBs for use with radation-hardened electronic components.
- Wrote register-level embedded software, using an RTOS framework.
- Conducted detailed failure mode analysis, simulations, and error budget analysis to ensure robustness to conditions on the lunar surface.

Esper Satellite Imagery February 2025 – July 2025
Electronics Engineer *Melbourne*

- Designed, implemented, and tested space-grade circuitry for a hyperspectral earth-observation payload.
- Communicated with external space provider, managed interface control description documents, and conducted reviews to ensure compliance.
- Used Atlassian project management suite to document work and organise requirements and timelines.
- Conducted extensive failure mode analysis of electrical systems.
- Designed and outsourced wiring harnesses and PCBs.

ARES Rocketry Team February 2022 – Present
Chief Engineer – 2023 - 2024, Lead Systems Engineer – 2025 - Present *The University of Melbourne*

- Acted as principle technical lead for a multidisciplinary team of 100 undergraduate and graduate students, to design and construct a 30'000 ft altitude sounding rocket to compete in the 2024 Spaceport America Cup. This rocket achieved 4th place out of 152 international universities.
- Wrote extensive technical documentation for project judging and to preserve knowledge for future generations of the team.
- Attended community rocket launches as well as the 2023 and 2024 Spaceport America Cup, requiring the diagnosing and fixing of problems in a time constrained and high-stakes environment.

- Designed, implemented, and tested a capable flight computer for controlling rocket flight, deploying parachutes, and logging data in previous role as avionics lead. This project was selected to be presented to the 2023 Spaceport America Cup judges as a podium presentation, which was commended for its technical design.
- Currently lead systems engineer for Project Odyssey, ARES' first entirely student-designed hybrid rocket. Implementing industry-standard aerospace systems engineering practices, and am acting as a chief SME for all technical aspects of rocket design.

QinetiQ Australia February 2023 – Present
Student Guide – Telstra Creator Space *Melbourne*

- Supervised students and staff in a busy state-of-the-art engineering workshop.
- Utilised extensive electronics experience to troubleshoot problems and educate university students and staff.
- Administered trainings to upskill users of all levels from high school to experienced research and professional staff in the use of electronic test equipment and soldering.
- Managed user expectations in a high energy, stressful environment to deliver quality service outcomes.
- Supported risk assessment for trainings and events, actioned safety initiatives, and managed competency databases.

Motorcycle Cruise Controls June 2019 – April 2022
Electronics Diagnostics and Repair Engineer *Melbourne*

- Designed custom test equipment to streamline safety checks and improve ergonomics.
- Worked in a team of experienced engineers to troubleshoot issues in existing and prototyped products.
- Identified issues in and repaired faulty PCBs, allowing discarded stock to be recovered and sold.
- Visited and inspected PCB assembly factories to identify candidates for future production runs.
- Used hand soldering skills to modify existing circuit boards for unique applications.

TECHNICAL SKILLS

- Use of Altium Designer to create aesthetic and readable schematics, as well as designing and manufacturing robust multi-layer PCBs (approx. 7 years of experience, also have experience in KiCAD and EagleCAD).
- Design of radiation-tolerant electronic systems for LEO and lunar applications.
- Design of EMI/EMC tolerant systems to MIL-STD-461.
- SMT PCB assembly, and design for manufacture. Skilled at hand assembly of electronics.
- Designing robust test campaigns, troubleshooting, and characterising electronic circuits.
- Programming microcontrollers in C/C++ for embedded applications, including writing drivers for ICs and sensors, working with Kalman filters, and using a range of different communication protocols (approx. 4 years of experience).
- FPGA programming in Verilog, using Intel's Quartus software package.
- Project management and leadership, having successfully led engineering teams of over 100 members.

INTERESTS

Learning and speaking French, playing guitar, completing general knowledge quizzes and cryptic crosswords, watching videos on electronics engineering, physics, and space.