

Eric Shan

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EDUCATION

University of Auckland, *Bachelor of Engineering (Honours), Electrical* | Auckland, New Zealand 2022 - 2026
Albany Senior High School, *Level 3 NCEA Academic Excellence Certificate* | Auckland, New Zealand 2019 - 2021

WORK EXPERIENCE

Progressive Technologies NZ Ltd, Auckland — *Electrical Engineer Intern* Nov 2025 - Mar 2026

- Assisted with electrical design tasks, including component selection, schematic development, and review of circuit functionality to meet project requirements.
- Performed circuit simulations to validate designs under different operating conditions to reduce risk prior to implementing hardware.

Future Manufacturing Ltd, Auckland — *Electrical Engineer Intern* Nov 2024 - Feb 2025

- Assisted with the mass production of DC-DC converters, supporting PCB assembly, component placement, soldering, and testing.
- Documented designs by creating and maintaining schematics, PCB layouts, bills of materials (BOMs), and technical reports.

BP, Auckland — *Customer Service Representative* Dec 2024 - Nov 2025

- Provided high-volume customer support, resolved technical pump/car wash issues, and managed transactions efficiently.
- Maintained composure during peak hours while handling barista duties in a fast-paced environment.

PB Tech, Auckland — *Customer Service Representative* Jan 2022 - Oct 2024

- Delivered technical support for electronics and computing hardware, troubleshooting compatibility issues.
- Assisted in inventory management and optimised in-store product displays.

PROJECTS

Battery Level Monitoring System | KiCad, PCB Fabrication Dec 2025 - Jan 2026

- Designed a lithium 12V battery level monitoring system with LED indicators and an emergency relay cutoff for low-voltage protection.
- Completed the full PCB development process, including schematic design, circuit simulation, PCB layout, fabrication, and assembly.

Energy Monitoring System | LT-Spice, Altium Designer, Embedded Systems Mar 2025 - Jun-2025

- Designed and prototyped a wireless energy monitoring system using voltage/current sensors for precise power measurement.
- Simulated circuit in LT-Spice, developed PCB in Altium Designer, and assembled via through-hole/SMD soldering.

Water Level Detection System | FEMM, LT-Spice, PCB Fabrication Mar 2024 - May 2024

- Engineered a water level probe for water level sensing using electromagnetic simulation (FEMM).
- Developed transmitter and receiver circuit schematics in LT-Spice and fabricated PCB with through-hole soldering.

Emergency & Outdoor Lighting Design | DIALux Evo May 2024 - Jun-2024

- Created compliant lighting layouts for a two-story building, optimising emergency and outdoor illumination per industry standards.

DC - DC Flyback Transformer | Power Electronics, Circuit Design, Safety Protocols Jun 2024 - Oct 2024

- Designed and tested a current-mode controlled flyback converter using the UC3843 controller for isolated DC-DC power conversion.
- Developed transformer specifications, selected protection components, and verified performance under varying load conditions.

Custom Built FPV Drone | Soldering, Microcontroller Intergration Dec 2024 - Jan 2025

- Designed and assembled a functional quadcopter drone, integrating brushless motors, ELRS Receiver, and a flight controller.
- Implemented safe power management and tested system integrity under load conditions.

TECHNICAL SKILLS

Engineering Tools Altium Designer, KiCad, LT-Spice, PLECS1, Autodesk Fusion, DIALux Evo, FEMM
Electronics Through-Hole Soldering, Surface-Mount Soldering, Raspberry Pi, ESP32, Arduino
Languages MATLAB, C/C++, Java, Python, HTML, CSS, LaTeX, Git
Professional Skills Report Writing, Technical Documentation, English (Fluent), Chinese Mandarin (Fluent)