

Resume - Matthew Stephen Smith

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EDUCATION	UNIVERSITY OF QUEENSLAND St Lucia, QLD Bachelor of Engineering (Honours) (Electrical Engineering Extended Major)	2015-2019
SKILLS	Programming Languages: C, C#, Matlab, Python, HTML, JavaScript Operating Systems: Windows, MacOS, Linux, FreeRTOS Software: Altium Designer, Kicad, Matlab, Simulink, LTSpice Embedded Systems: Arduino, Atmel, Espressif, STMicroelectronics, FPGA	
WORK EXPERIENCE	MACHINEMONITOR Banyo, QLD Undergraduate/Graduate Electrical Engineer <ul style="list-style-type: none">• Condition monitoring of rotating machines including risk assessment, predicted failure mechanisms, and recommended maintenance• Experience performing/interpreting a range of machine condition assessment tests including (but not limited to) insulation resistance/polarisation index, dielectric dissipation factor, partial discharge, and DC ionisation against relevant electrical test standards• Delivering machine condition assessment reports to customers• Managing online condition monitoring systems (AnomAlert) and delivering routine dashboards to customers• Electrical instrumentation calibration• Develop/test electrical models in house to verify viability of performing atypical field tests	January 2019 - Present
	ARC HARDWARE INCUBATOR Fortitude Valley, QLD Electronics Engineering Intern <ul style="list-style-type: none">• Engaging with startups to assist developing minimum viable products• Prototyping experience using CAD, 3D printing, and laser cutting	December 2018 - January 2019
	UNIVERSITY OF QUEENSLAND St Lucia, QLD Second Year Electrical Engineering Tutor <ul style="list-style-type: none">• Tutoring for ELEC2003 <i>Electromechanics & Electronics</i>• Assisting students in practical classes and tutorial classes	February 2018 - June 2018
PROJECTS	Analysis of digital control systems for grid-connected solar inverters <ul style="list-style-type: none">• Final-year thesis project examining optimal digital control methods for solar inverters• Aims to extend standard inverter control methods to consider grid-impedance variation for more stable control in wider range of operating conditions Electrocardiogram hardware frontend with QRS wave detection <ul style="list-style-type: none">• Constructed a high gain differential amplifier with analog filtering stages for displaying a person's heartbeat• Considered safety when designing electronics involved in measuring the body• Digital signal processing implemented to detect the occurrence of the QRS wave (tested in MATLAB and ported to a Teensy 2 microcontroller) Internet of things (IoT) portable monitoring device (Team) <ul style="list-style-type: none">• Data logging project for recording temperature, humidity, and ultraviolet index with GPS location tracking• Ultra-compact PCB design for portability and mounting to existing system• ESP32 microcontroller to interface with sensors and send data securely over WiFi• Software interfaces to display recorded data and interpret securely transmitted data Electronic DC load <ul style="list-style-type: none">• 0-30 V, 0-3 A adjustable electronic load• Simulated in LTSpice and schematics and PCB designed in Kicad• Input protection considerations for overvoltage and reverse polarity scenarios• Thermal simulations and solution using CPU heatsink and fan• Firmware for digital control and monitoring	

REFEREES | Available on request.