Anh Tran

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EDUCATION

The University of Queensland   **Expected 2026**
- Bachelor of Electrical Engineering (Honours)

Kelvin Grove State College   **2021**
- 98.75 ATAR, QCAA Certificate of Academic Commendation
- College Mathematics Captain and Senior Representative Council Member
- Top in Subject Award for English and Literature

EXPERIENCE

UQ Racing Formula SAE Team   **2023 - 2025**
Electrical Engineering Lead
- Gained experiences in leading a team of 20 electrical engineering students under pressor in developing and manufacturing control systems and high energy battery to power Formula SAE vehicles, securing 1st place overall in Australia for 2 consecutive years
- Established high voltage SOPs, SWPs and safety training protocol to ensure team compliance with AS\NZS electrical safety standards
- Managed weekly sprints and quarterly design reviews to assess deadlines and validate design objectives through rigorous hardware in the loop testing, learning standardised documentation processes for future vehicle iterations

Queensland Brain Institute   **2025 - Present**
Student Electrical Engineering Researcher
- Developing a miniaturised, implantable PCB sensor to record local field potentials and neuronal spiking activity in rodents for a long term study
- Engineering a wireless power transfer system for minimally invasive implant to enable long term neural monitoring and gained experiences in biomedical implementations of electronics
- Optimising real time data transmission protocols to stream high bandwidth neural telemetry for lower latency and power consumption

Kelvin Grove State College   **2022 - 2025**
Teaching Assistant and Teacher Aide
- Facilitated inclusive education programs to support students with diverse learning needs and specialised requirements
- Managed classroom environments by enforcing behavioural standards and safety protocols to maintain an optimal learning atmosphere
- Coordinated with faculty to adapt lesson plans for individualised education programs, increasing student engagement metrics

P2P Education   **2023 - 2025**
Academic Tutor
- Private senior tutoring for Mathematics, Economic, Physics, Chemistry, Biology, Sports Science, English

Sushi Edo Newmarket   **2021 – 2023**
Cook and Back of Hall Manager
- Directed inventory procurement and kitchen operations during peak hours
- Orchestrated training for new personnel for safety protocol inductions

SKILLS

- **Hardware:** ARM Cortex, STM32, NXP, AVR, ATmega
- **Design:** Altium Designer, Cadence PSpice, Ansys Electrical (Maxwell, IcePak, Q3D)
- **Languages:** C (standard and embedded, Python, MATLAB, SQL, Bash
- **Instrumentation:** Oscilloscope, DMM, PSU, Wave Generator, Spectrum Analyser

PROJECTS

Driverless Fault Management Module
- Engineered a modular dual board system by decoupling the autonomous fault logic from the primary vehicle management unit, increasing testing throughput by 50% via parallel development, testing and integration
- Designed a fail-safe logic circuit with LogiSim and Altium using discrete logic gates and flip flops for continuous monitoring of operational failures of pneumatic and electrical systems
- Implemented an STM32 based supervisory watchdog system in embedded C to execute real time hardware in the loop diagnostics on brake pressure and watchdog signals
- Optimised PCB spatial efficiency and weight by replacing DT systems with high density DTM connectors, reducing module mass and special footprint by 60%

StackFET Buck Power Supply
- Designed a StackFET Buck DCDC converter to step down 600V EV battery voltage to a 12V range suitable for standard automotive electrical systems
- Optimized circuit efficiency with less than 20 mW no load consumption by implementing precise inductor current control to minimise THD
- Reduced output voltage ripple to less than 100mV peak to peak at maximum load by optimising output filter stages and capacitor ESR selection
- Conducted thermal and magnetic simulations to select critical power component to ensure stable continuous conduction mode under full load

Smart Waveform Function Generator
- Engineered a programmable waveform generator using an AVR microcontroller to synthesize different signals with variable frequency control
- Developed a phase accumulator in embedded C to synchronise waveform phase increments with DAC output, maintaining signal periodicity across 100 Hz to 20 kHz range
- Implemented a lookup table strategy to optimise processor cycles and improve the sampling rate of digital to analogue conversion process

EXTRACURRICULAR AND VOLUNTEERING

UQ EAIT Outreach
- Facilitated engineering workshops for secondary students across Brisbane, Noosa, and the Gold Coast to promote STEM education and humanitarian engineering
- Managed logistical requirements and travel schedules for multi-city outreach initiatives to ensure consistent and quality demonstrations

The Salvation Army
- Managed retail operations and inventory for a high volume community store to maximise fundraising revenue
- Executed cash handling and point of sale procedures during peak operational hours