

Alexander Frost

Portfolio: [AFengi.dev](https://afengi.dev)

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🏠 Wollongong

OBJECTIVE

Electrical Engineer with industry experience in automation, control, and electrical systems. Skilled in applying CAD tools for drafting and design, and confident in troubleshooting across both hardware and software. I am eager to contribute to innovative engineering projects, further develop my technical and consulting skills, and grow within a collaborative team environment.

EDUCATION

University of Wollongong

Bachelor of Electrical Engineering (Honours)

August 2019-August 2025

Wollongong, NSW

TECHNICAL SKILLS AND INTERESTS

Developer Tools: Siemens TIA Portal, AutoCAD, KiCAD, Fusion360, Matlab, Simulink

Documentation and Design: Excel, Word, TeX

Coding Languages: SCL, C, C#, C++, Python

Areas of Interest/Hobbies: Circuit Design, 3D Printing, Music Tech

EXPERIENCE

Engineering Et Cetera

Junior Electrical/Control Systems Engineer

April 2025-Present

Wollongong/Sydney, NSW

- Fabricated, assembled, and wired control panels and subassemblies, ensuring neat layout, reliable terminations, and compliance with safety and quality standards.
- Designed and commissioned PLC/HMI systems using Siemens TIA Portal and Unified Comfort panels, integrating ASi networks and sequencing Clean-in-Place (CIP) processes for food manufacturing plants.
- Produced LV and control electrical schematics and 3D models in AutoCAD Electrical, applying AS/NZS 3000 and 3008 for cable sizing, load analysis, and protective device selection (MPCBs, MCCBs, VSDs, RCBOs).
- Supported commissioning of LV pump motors, RTD temperature sensors, and valve actuators, working alongside electricians, subcontractors, and clients to ensure safe and compliant installations.
- Diagnosed and resolved automation and control faults, including sequencing/interlock errors, pneumatic failures, and legacy PLC/HMI issues, by reverse-engineering ladder logic and HMI sequences.
- Enhanced site safety by identifying hazards and implementing improvements, contributing to a safer work environment during installation and commissioning.
- Delivered engineering solutions across diverse projects, including dairy and butter manufacturing, HVAC ammonia cooling systems, and chemical processing plants.

McNeice

Draftsperson (Sole Trader)

August 2020-Present

Wollongong LGA

- Produced detailed floor plans for residential properties to support real estate sales.
- Collaborated with the Creative team to aid in selling residential properties.
- Operated independently as a sole trader, handling business development, client relations, and end-to-end drafting services.

PERSONAL PROJECTS

Custom-Built Mechanical Keyboard

3D Modelling/Printing, Soldering, Part Design and Construction.

July 2024

- **Soldering, 3D modelling and designing** keyboard components and electronics.
- Complete project and additional work available in my portfolio.

Innovation Fair 2023 Award — Most Popular Display

App development; Arduino and state machine design

October 2023

- **Software and Hardware Development:** Designed and launched iOS app, assisted in circuit design of clock timer, RFID systems and ultrasonic sensors.

References provided upon request.