

# Alexander Frost

Portfolio: afengi.dev

Bachelor of Electrical Engineering (Honours)

University of Wollongong, UOW

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🏠 Wollongong

## ABOUT ME

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I am a final-year Electrical Engineering student at the University of Wollongong, 1 part-time semester away from completing all my coursework, and I am eager to apply my technical knowledge and problem-solving skills in a practical environment. I am excited about the opportunity to contribute to the design of electrical systems. With a solid foundation in engineering, a passion for problem-solving, and experience in drafting technical diagrams and liaising with vendors professionally, I am confident I can add significant value to any team or organization.

My academic training has equipped me with a diverse set of technical skills, including proficiency in programming languages such as C, C++, C, Swift, Matlab, and Python. I am experienced with microcontrollers like Raspberry Pi and ESP8266 and have applied these to design, test, and troubleshoot circuits for various projects. Additionally, I have experience in creating detailed electrical schematics and designs using CAD software, including Fusion360, Blender, and other industry-standard tools. These skills, combined with my ability to adapt and learn quickly, will allow me to contribute effectively to electrical design and automation projects.

For my thesis, I focused on radio-frequency (RF) power transfer, where I gained a deep understanding of antenna design and wireless communications. This specialisation has honed my ability to analyse and troubleshoot complex systems, a skill I look forward to applying to designing and optimising electrical installations and systems. In addition to my technical expertise, my experience as a draftsman has refined my ability to create clear, accurate technical drawings and documentation, ensuring precision in all stages of the project lifecycle.

Throughout my studies and professional experience, I have developed strong communication skills. In my role as a draftsman, I worked closely with clients, vendors, and engineers to ensure clear, effective communication regarding project requirements and technical specifications. These experiences have enhanced my ability to collaborate with multidisciplinary teams, communicate complex technical information, and manage client relationships. I am confident these skills will allow me to contribute effectively to projects and ensure smooth communication with both internal teams and external stakeholders.

I am committed to delivering high-quality work and consistently going above and beyond to meet project goals and deadlines. My experience working in both technical and customer-facing roles has reinforced the importance of professionalism, attention to detail, and teamwork. I am eager to bring these qualities to any team and contribute to the delivery of innovative, reliable electrical solutions. I look forward to learning from experienced engineers and further developing my career in the electrical engineering field.

## EDUCATION

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### •University of Wollongong – UOW

*August 2019-Present (Awaiting Graduation July 2025)*

*Bachelor of Electrical Engineering (Honours) - Fourth Year*

## ACHIEVEMENTS

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•**1st Place - Most Popular Display**, UOW Innovation Fair 2023

*October 2023*

•**1st Place - Excellence In Science**, Vincentia High School

*August 2018*

## TECHNICAL SKILLS AND INTERESTS

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**Coding Languages:** C, C#, C++, Python, Swift, Matlab, TeX

**Developer Tools:** Matlab, Simulink, AutoCAD, KiCAD, Fusion360, Revit, Excel, Word, Adobe Suite

**Soft Skills:** Verbal and Written Communication, Adaptability, Creativity, Autodidactism, Teamwork, Patience

**Areas of Interest/Hobbies:** PCB and Circuit Design, Music Production, Sound Design, Brazillian Jiu Jitsu

**Experience using Windows, MacOS and Linux based systems**

## EXPERIENCE

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### •Molenaar x McNeice

August 2020-Present

*Draftsperson*

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.

In my capacity as a sole trader, I provide a drafting service to the sales team. This involves conducting on-site visits to homes, where I perform precise measurements and generate accurate floor plans and technical drawings for residential properties to enhance the real estate sales package and meeting strict deadlines.

I create plans using Adobe Photoshop, and my work is valued by the sales team for maximising the visual appeal of listings and assisting potential buyers in making informed decisions about their real estate investments. I have been recognised for my unwavering commitment to excellence, striving to exceed expectations and deliver superior results.

Through my business I have developed ownership and accountability around my work, fostering an entrepreneurial mindset, enhancing my self-reliance and business management abilities. It has motivated me to continuously upskill to stay competitive in a dynamic professional environment.

### •Lagoon Seafood Restaurant

January 2022 - December 2022

*Bartender/Barista*

North Wollongong

- Developed my bartender abilities as well as cultivated barista skills.
- Supported other staff members as needed, such as running drinks or taking orders.

During my tenure at Lagoon Seafood Restaurant, I honed my expertise in bartending and barista techniques, enhancing my proficiency in crafting exceptional beverages and delivering top-notch customer service. In addition to these skills, I actively contributed to the team's smooth operation by taking on various roles, such as efficiently serving drinks and attending to customer orders, showcasing my adaptability and commitment to teamwork.

### •Taj Indian Restaurant

January 2017- January 2019

*Kitchen hand*

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- Initiated myself into a hospitality environment
- Experienced many roles

Whilst in high school, I embraced the role as a weekend dish hand at a vibrant Indian restaurant. I worked as part of a close-knit team in a fast-paced environment where I quickly learned to multi-task. This early job experience not only provided me with practical skills but also instilled in me the values of teamwork, responsibility, and effective communication, which continue to be the foundation of my professional approach.

## PERSONAL PROJECTS

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### •Innovation Fair 2023 - Find-A-Park

2023

*App development; Arduino and state machine design*

In this group project, I took on a multifaceted role to contribute to the project's success. My primary responsibilities included:

- **Application Development:** I played a pivotal role in the development of the application, utilising tools and technologies such as Multisim, Xcode 15 and the Arduino IDE to bring our concepts to life.
- **User Interface Design:** I was responsible for planning, creating, and refining the user interface to ensure a user-friendly and aesthetically pleasing experience.
- **Hardware Involvement:** I participated in the technical aspects of the project by soldering the timing circuit and troubleshooting issues related to RFID and ultrasonic sensors, demonstrating my problem-solving abilities.
- **Marketing and Visual Concepts:** I actively contributed to the visual concepts for marketing our project to the public, promoting the app's features and benefits to a wider audience.

Find-a-park was an innovative application designed to reinvent the way users can locate parking spaces, allowing for a more time-efficient and reliable approach to enhance the parking experience. Users can book a space in the specified parking lot for a time period and not have to worry about being late due to unexpected parking issues.

What set our project apart from others was our seamless and cost-efficient integration, as our product was compact and could be installed directly into the wheel stop within any current functioning car lot, allowing it to immediately function as a Find-A-Park lot. This was done through an ultrasonic and RFID dual sensor system communicating with a programmed Arduino and a WiFi module in order to seamlessly communicate with a booking application on an external device.

Our collective efforts and dedication paid off when our project was awarded first place for the 'Most Popular Display' at the UOW Innovation Fair in 2023. This experience not only showcased my technical and creative abilities but also reinforced my commitment to innovation and teamwork in a real-world context.

## •Custom Keyboard Build

2024

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

- Soldering keyboard electronics without the use of a PCB
- Part choice and design for specific appearance and functionality
- 3D modelling, designing and modifying existing models in order to produce the final product

In 2024 I constructed a functioning custom keyboard from essentially scratch, 3D printing most parts such as the casing, keyplate and keycaps, as well as soldering and wiring the electronics without the use of a PCB.

## REFERENCES

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### •Professional Reference — Jarrad Hannan

0413 092 290

*Workplace Industry Professional — Photographer/Project Coordinator for Molenaar + Mcneice Creative Team*

### •Character Reference — Esteban Lopez

0452 502 735

*Materials/Quality Engineer at Bluescope — Former Coworker at Lagoon*