Charkrit Atherton

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Career Objective

Final year Mechatronics Engineering/Medical Science student with 3 years of industry experience designing, developing, and testing real-time control software on embedded systems and PLCs in fire protection. I strive to add value to the world and create a lasting impact with my work.

Education

B Engineering (Mechatronics)/B Medical Science **(Expected) 2024**

University of Technology Sydney (UTS)

- Participated in the Elite Athlete Program
- Credit average (72.19 WAM)

Professional Experience

Mechatronics Engineer **March 2021 - Present**

Orion Fire Engineering

- Streamlined factory testing, on-site servicing, and enabled remote diagnostics by devising a portable utility to configure and diagnose Orion Fire systems.
- Engineered a versatile control system upgrade, ensuring compatibility with existing and new fire monitors, thus enabling incremental system upgrades.
- Developed a ModbusTCP/IP API for a fire monitor system, tailoring it to specific client requirements to integrate seamlessly with their SCADA systems.
- Integrated a thermal imaging sensor with a remote-controlled water cannon to detect and extinguish a fire autonomously.

Instructor **January 2023 - Present**

Junior Engineers

- Lead engaging STEM classes for a diverse range of students, fostering an interest in technology and engineering principles among the younger generation.

Volunteer Experience

Coach & Team Manager **2019 - Present**

UTS Taekwondo Club

- Planned and conducted engaging Taekwondo classes, catering to a diverse range of skill levels and ages, fostering discipline and physical fitness.

Technical Skills

- C/C++
- Python
- IEC 61131-3
- Phoenix Contact PLC & PLCnext
- Microcontrollers (PIC, ATmega)
- Embedded Linux (Debian & Ubuntu)
- Industrial Communication Protocols
  - ModbusRTU over RS-485
  - ModbusTCP/IP
- Control panel & Junction box assembly
- Proficient in interpreting engineering drawings and diagrams

Core Skills

Effective Communication Skills	Through my role as an Instructor at Junior Engineers, I utilised and enriched my skills as a communicator. Successfully conveying complex engineering and scientific concepts to students of varying ages and backgrounds by employing a range of teaching methods and adapting my communication style. This is transferrable to other situations with non-technical stakeholders.
Analytical Thinking	Much of my responsibilities at Orion Fire Engineering was testing electronics and control systems. I established a logical testing procedure and a series of documents to guide the testing process and record results. This set an analytical standard that ensured tests could be done in a repeatable and reliable fashion.
Teamwork	During the subject *Design in Mechanical and Mechatronic Systems 1*, I worked with a team of students to develop a robot platform for our client at the Nokia 5G Futures Lab. We worked effectively as a team to deliver the robot to the lab manager and the CTO of Nokia Oceania. The robot was also showcased at a Tech Council of Australia networking event.
Critical Thinking	As a Mechatronics Engineer at Orion Fire Engineering, I identified weaknesses in the processes for programming, configuration, testing, and record-keeping of fire monitors. I planned and produced a portable utility application with a web user interface. This optimised operations and showcased my initiative and ability to identify and solve complex problems.

References

Available upon request.