Jawaad Akhtar

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SUMMARY

A dedicated and dependable engineer with a passion for continuous learning. Seeking a fulfilling career opportunity to apply and develop technical skills, while making meaningful contributions to an organisation.

EDUCATION

Computer Systems Engineering (BEng), First Class Honours (IET Accredited). University of Kent, Canterbury, graduated June 2020.

Year 2 (84.7%): Object-Oriented Programming (83%); Electronic Instrumentation and Measurement Systems (83%); Signal and Systems (98%).
Year 3 (83.8%): Embedded Computer Systems (82%); Product Development (84%); Digital Systems Design (91%); Digital Signal Processing and Control (84%).
Individual Project (71%): Analysis and Control of an Inverted Pendulum.

Cheney School Sixth Form, Oxford, 2017.
A Level: Maths (B), Chemistry (C) and Physics (D)

Cheney School, Oxford, 2015.
GCSE: 9 A* - C, including Maths (A*), English (B) and Sciences (B)

EXPERIENCE

Senior Controls & Electrical Design Engineer. Optek Systems, Spring 2024 to Present.

Part of the Electrical Design team responsible for electrical design and PLC programming across projects.

Main Responsibilities:

- Programming system PLCs from scratch to provide safety and control functionality
- Designing and producing comprehensive electrical schematics for the build of manufacturing equipment.
- Producing and maintaining machine documentation such as user manuals
- Developing then performing post build checks and tests to ensure correct machine operation.
- Supporting the commissioning of machines by collaborating with the software and laser team.

Other Responsibilities:

- Assisting in resolving electrical issues encountered by scientists during R&D.

Notable Work:

- Designed and commissioned a fully PLC controlled processing machine. Customer required all parts related to the process to be PLC controlled. Worked with mechanical engineers to design a system that could meet this requirement. Supported build and designed post build tests to ensure no issues. Programmed the machine from scratch, started by creating functions to control individual

components. These components included motion stages, conveyors, pneumatics, wire tensioners and a laser with accompanying scanner. Pieced all parts of the system together to created a cohesive program that could automatically process parts to the desired quality. Refined the program with data logging, maintenance functions and error handling. Tested the system to ensure that it met all criteria and could withstand around the clock use. A HMI was also made to aid operators in using the machine, with the UI designed to be user friendly so only basic training was required to use it. Customers were brought on site and ran a battery of tests, where it passed after demonstrating the required capability and performance.

Controls & Electrical Engineer. FMB Oxford, Autumn 2020 to Spring 2024.

Part of the Control's team, being responsible for the controls and electrical work across projects.

Main Responsibilities:

- Producing technical electrical drawings that are used in the manufacture of scientific equipment, cabling and other products.
- Working alongside mechanical engineers through various design phases and creating designs to provide actuation and instrumentation.
- Aiding technicians to resolve controls related issues in a timely manner during the build phase of projects.
- Creating and maintaining documentation for the testing and integration of motion control on systems.
- Liaising with customers to ensure all their project requirements and facility standards can be satisfied.

Other Responsibilities:

- Providing post project controls support to customers.
- Researching and developing solutions to novel customer functionality requirements.
- Creating motion control programs for the automation of factory testing.
- Training engineers and technicians on new equipment and procedures.
- Supporting other departments (purchasing, stores and sales) when needed.

Notable Work:

- Lead a R&D project for a novel motion controller. An electrical design was produced after reviewing customer needs, followed by a mechanical prototype. The prototype was refined after evaluating the prototype performance. It was then put through testing with a NRTL to certify it conforms to standards required to affix CE and MET marking. Handled all communication, documentation management and technical support throughout the testing process. The controller passed and entered production shortly after.

TRAINING

PILZ Certificate in Machinery Safety. Attained April 2025. (City & Guilds Assured).

- CE Marking process and relevant EU standards. Including but not limited to the following:
  - Machinery Directive.
  - EMC Directive.
  - Low Voltage Directive.

- Selection and requirements of different types of machine guarding and interlocking.
- Principals & details of BS EN 60204-1.
- Principals & details of EN ISO 13849-1.
- Risk assessments and PUWER assessments.

TECHNICAL SKILLS

Software Proficiencies:

- SEE Electrical
- SolidWorks Electrical
- TwinCAT XAE
- Studio 5000
- FactoryTalk View
- Connected Components Workbench
- TIA Portal

Coding Languages:

- Ladder Logic
- Function Block Diagram
- C/C++