WILLIAM SULLIVAN

SOFTWARE DEVELOPER

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About

A Software Developer with industry experience and a strong background in Physics. Specialising in **C#**, and with previous experience of both frontend and backend development on projects for Windows and Android. Adept with **SQL** and a variety of **XML** driven, UI frameworks. Eager to create efficient, and user friendly software with modern solutions. Looking for a position where I can exercise my skills to provide solutions to real challenges and grow as I establish myself in Canada.

Competencies

Full-Stack Software Development	C#, Python	Database Design/SQL
Problem Solving	Statistical Analysis	Technical Communication
Software Testing	Teamwork	Research

Experience

SOFTWARE DEVELOPER — DataHorizon
📅 2021-2022   📍 Tewkesbury, UK

Developed, tested, and implemented code for multiple applications and their required web services.
- NPMS Project (Nigerian National Oil Production Monitoring System):
  - Worked with Nigerian officials to implement new features for the management application, and optimise their workflow. Allowing for more detailed monitoring and making it easier for them to control national production.
  - Modified a **Windows Forms** application utilising **DevExpress** components and written in **C#** and leveraged **SQL** queries to access an **Oracle** Database.
- Anaconda Project (Data Collection and Monitoring System):
  - Refactored significant portions of the **WPF** application to adhere to modern development practices and utilise more modern technologies. Improving the maintainability of the software.
  - Established a **WCF** service to facilitate remote data access from a Microsoft **SQL** Server Database and a request manager to handle the large amounts of data received by the application and rapidly update the visualisations.
  - Independently developed a **MAUI** application for Android which would allow users to access and monitor data from anywhere.

TECHNICAL ADMINISTRATOR — MypowerUK
📅 2020-2021   📍 Toddington, UK

- Coordinated paperwork, working with installation teams to ensure valid certificates and documents were acquired and then delivering them to the customers. Personally cleared a backlog of almost a year's worth of clients in less than a month.
- Researched battery storage and analysed data, calculating expected returns from installing batteries in conjunction with solar panels to determine economic viability.
- Developed a **Python** script during personal time to streamline the paperwork and collation process and improve my efficiency. Then began development of a **C#** application, adding a user-friendly UI and allowing other users.

Education

MSci PHYSICS WITH HONOURS — University of Birmingham
📅 2016-2020   📍 Birmingham, UK
Class II (Division I)   GPA: 3.5

NEURAL NETWORKS FOR CATEGORISING NANOPARTICLES — Final project
- My final project was to demonstrate the feasibility of employing Neural Networks for the rapid categorisation of Nanoparticles from their Scanning Transmission Electron Microscope (STEM) images.
- Used **Python** to generate nanoparticles with diverse characteristics and create intensity graphs representing cross-sections through them, simulating STEM images for training purposes.
- Trained Neural Networks using **Keras** with **TensorFlow** on the generated STEM images and determined that it was possible to categorise particles, and suggested methods of training to encourage more accurate results.

SWINGING NAO ROBOT — Group Study
- Collaborated as a member of a 14-person group to optimise the swing of a NAO robot, aiming to achieve the highest possible swing height.
- Contributed to the machine learning subgroup and took the lead in developing a **Neural Network** from scratch using Python, then training it in a simulated environment using a genetic algorithm.