Declan Richard Porter
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EU and South African Citizen
C++ Software Engineer

Work experience.

C++ Embedded Programmer, Eranest 2022-Current

- Engineered high-performance C++ firmware for a distributed fleet of real-time IoT devices, with a strong focus on low-latency, deterministic behavior and multi-threaded design.
- Designed and implemented the Aqua Scanner, a robust, latency-optimized device that reduced water expenditure by approximately 20%, leveraging event-driven architecture and real-time signal processing
- Built the Aqua Meter, a highly reliable flow measurement device that provides actionable telemetry to property managers—enabling data-driven decisions and measurable cost savings
- Integrated all embedded devices into a .NET-based control and configuration platform, deployed on Microsoft Azure, supporting remote OTA updates and diagnostics at scale
- Utilized the MQTT protocol for efficient, low-overhead telemetry and command/control messaging across a constrained network of edge devices—ensuring reliable communication under fluctuating connectivity conditions.

Junior Software Engineer, *BBD,* 2021-2022

- Participated in a structured graduate program for junior software engineers, gaining hands-on experience in software development.
- Used Docker, Kubernetes and Grafana to deploy and monitor financial applications for Standard Bank, ensuring high availability and scalability of services.

Education

- Bachelors of Computer Science 2021, major in Applied Mathematics, from Nelson Mandela University.

Projects

Real-Time Market Simulation Using ESP32 Microcontroller Trader Nodes

- A simple, experimental market simulator designed to explore market microstructure and algorithmic trading mechanics. It includes a basic TCP/UDP-based order book engine with desktop and ESP32 clients simulating trading behavior.

Open Source Contributions to the C++ Espressif IoT Development Framework

- Fixed issue I encountered in sample code regarding ESP32 microcontrollers LCD screens.

Python Blender Addons

- Developed a Python addon that improves texture management at large scales.
- Developed a Python addon that automatically generated Sci-Fi panels.