

Mario Fernandes

Software Engineer

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Software engineer with strong experience in full stack development and systems programming, including work optimizing storage performance and modernizing enterprise deployments. Adept at diagnosing complex network environments and creating robust, scalable solutions.

Work Experience

Software Engineer **Bridgeworks Ltd** **Sep 2022 - Present**
Development team Lymington, UK

- Containerization and Microservices:** Modernized the flagship product, PORTrockIT, by designing and implementing containerized microservices architecture. This critical initiative attained near-native performance preservation while enabling software only deployment across any existing Linux products, eliminating the need for specialized client hardware.
- Systems Development and Network Troubleshooting:** Writing efficient C and Bash code while diagnosing complex WAN environments using Fiber Channel, iSCSI and packet-level analysis, contributing to major initiatives like **Project Celer** (see Projects below for performance metrics).
- Full Stack Web Development:** Building responsive and accessible interfaces using HTML/CSS, Lua and JavaScript, ensuring that complex backend system diagnostics are presented clearly and intuitively for enterprise users.

Bridgeworks Ltd & OCF - Project Celer

Collaborated with OCF to deliver significant performance improvements to IBM Storage Scale through targeted system optimizations, specifically focused on accelerating data transfers over the WAN. Using the internal NSD protocol, we reached line-rate performance up to around 50 ms of latency and maintained strong throughput even at 300 ms of latency, while also mitigating the impact of packet loss. We presented our findings at the IBM GPFS User Group, demonstrating strong technical insight and clear communication of complex concepts. A whitepaper detailing the project will be published by Bridgeworks and OCF.

Technologies and Programming Languages

Languages: C (Strong), Lua, Bash, JavaScript, C++
Core Technologies: Docker, Git, IBM Storage Scale, Linux (systems programming), Wireshark, ESXi, Proxmox
Web Fundamentals: HTML/CSS, JQuery, REST APIs (Familiar with React & Node.js ecosystems)
Other: TCP/IP, Network Infrastructure, Storage Infrastructure

Education and Certifications

BSc (Hons) Computer Games (Software Development) **Solent University, 2018 – 2021**

- Achieved First-Class Honors, demonstrating academic excellence in software development.
- Developed core software development skills from the ground up, with a heavy focus on C++ and C#.
- Created numerous software projects for assignments utilizing various APIs, including DirectX11, SDL, PlayStation 4 SDK, Unity3D, Unreal, and Wwise.

Projects

Binger Ninja – Digital Sushi

- **Co-founded** Binger Ninja in collaboration with a team of third-year university students during the Covid-19 pandemic, executing the entire development lifecycle within a fully remote environment.
- **Served as Programming Lead**, assuming a multidisciplinary range of responsibilities including Gameplay Programming, Platform Programming, QA, and Optimization.
- Further details are available in portfolio.

The game can be found here:

Steam: https://store.steampowered.com/app/1557300/Binger_Ninja/

Itch.io: <https://jonthebluecow.itch.io/binger-ninja>

Certifications and Courses

EdX - IBM Professional Certificate in Cloud and Application Development Foundations

- **Objective:** Completed comprehensive training in Cloud and Application Development, covering full-stack concepts from HTML5/CSS/JavaScript to React and Node.js in a cloud-native development context.

Languages

- English - Professional
- Portuguese - Native

Interests

- Discovering new music
- Exploring coffee brewing methods and roasts
- Learning about system design and new developer tools