MARIO PORTILLO

Software Engineer
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Software Engineer with experience building and maintaining production-grade backend and full-stack systems using TypeScript, Node.js, PostgreSQL and cloud platforms (AWS, GCP). Proven track record in system refactoring, API design, data modelling and scalable architecture across product environments.

Education

Loughborough University **2021 – 2025**
BSc in Computer Science with Placement Year *Loughborough*

- First Class Honours (1:1) with the Diploma in Professional Studies
- Relevant Modules: Software Engineering, Data Structures and Algorithms, Machine Learning, Cloud Development.

Work Experience

Garcia Rama **December 2025 – Present**
Software Engineer Consultant, Backend *Remote, Spain*

- Acted as a core technical decision-maker on a production-critical platform, owning architecture and stack selection across backend, frontend, and infrastructure layers.
- Designed and evolved PostgreSQL data models via Prisma to support complex template, export, and project workflows, enabling safe schema migrations and resolving recurring data-integrity issues.
- Drove a large-scale refactoring of legacy services, reducing cross-domain coupling and cutting feature development time by 30 to 40% through clearer service boundaries.

ElectronRx **August 2025 – October 2025**
Software Engineer Consultant, Full-Stack *Cambridge, United Kingdom*

- Accelerated the development of purpleDx by engineering digital biomarker CI/CD pipelines and scalable RESTful APIs, enabling precise capture of physiological metrics (heart rate, respiratory) for medical-grade analysis.
- Integrated Google Cloud services (GCP) to unify and standardise clinical datasets across UK-Japan research branches ensuring secure synchronisation and version data-exchange protocols.

Avco Systems **July 2023 – July 2024**
Software Engineer, Full-Stack *Slough, United Kingdom*

- Designed and refactored enterprise applications for UK clients, introducing a type-safe OpenAPI specification to ensure API stability and support delivery of breaking changes.
- Bridged legacy C#/.NET backend services with modern frontend applications, streamlining operations and focusing on improving system cohesion and future development scalability.
- Enhanced overall system stability by expanding a full-stack testing suit to exceed 70% code coverage which significantly reduced production-critical bugs.
- Automated AWS authentication using AWSume for debug configurations, reducing debug launch time by 40%.
- Took initiative to liaise directly with clients to clarify requirements and define project scopes.

Projects

Quantitative Research Platform | *TypeScript, NodeJS, PostgreSQL, Python*

- Designed and built a quantitative research platform for time-series market data enabling historical analysis, model evaluation and forward-looking predictions.
- Implemented end-to-end model experimentation pipelines including data preprocessing, parameter selection, performance evaluation and result visualisation.
- Developed scalable analytics and access-control system with subscription gating, run logging and usage limits to support research-grade experimentation.

Dietary Safety SaaS Platform | Co-Founder | *TypeScript, Next.Js, PostgreSQL*

- Identified a critical dietary challenge and built a B2C full-stack web application to address it. The solution empowers users with very specific allergies to access precise restaurant allergen data and community-driven feedback.
- Developed to Vercel using PostgreSQL database and hosted in Supabase.
- Implemented user authentication to handle sensitive allergy information through API integration and applied industry-standard encryption techniques.

Voice Assistant AI | *C++*

- Engineered a custom voice recognition AI system using Arduino UNO with in-built microphone, speakers and memory, enabling voice-controlled interactions which enhanced the user interface for home automation projects.

Technical Skills

Languages: TypeScript, JavaScript, Python, Java, SQL, C++
Frameworks & Libraries: React, Next.js, Node.js, Pandas, Scikit-Learn, Docker.
Tools & Technologies: Git, GitHub Actions, Vercel, AWS, Google Cloud (GCP), PostgreSQL, SQLite, Prisma, Agile Development, Unit Testing.