

MATTHEW BYRNE

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PROFILE

Results-driven software developer seeking contract or project-based opportunities. Motivated by impactful work and committed to continuous learning and improvement. Proven track record of delivering successful, client-aligned solutions with experience spanning health tech, engineering, and IoT-adjacent systems. Strong communicator who prioritizes user impact, technical quality, and collaboration with clients and stakeholders. Available for short-term contract roles with immediate delivery focus.

EDUCATION

MSc. in Artificial Intelligence — Munster Technological University	Ongoing, Expected 2027
Certificate in Secure Software Development — Munster Technological University	2023 - 2024
BSc. in Software Development — Munster Technological University	2019 - 2023

SKILLS

Languages & Markup	JavaScript, TypeScript, Python, Java, PHP, C#, HTML/CSS
Mobile & Frontend Technologies	React Native, React, Angular, Figma, Responsive UI Design, Bootstrap
Backend Technologies & Cloud	Node.js, Spring Boot, Laravel, Firebase, REST APIs
Additional Experience	UI/UX implementation, real-time IoT data integration
Soft Skills	Results driven, detail orientated, collaborative in cross-functional teams

EXPERIENCE

Full Stack Software Developer	Jan 2022 - June 2025
Nimbus Research & Development Centre	<i>Hybrid. Cork, IE</i>

1. Developed a React Native mobile application for real-time surgery patient monitoring, enabling live vital sign tracking and procedure logging during procedures. Integrated with Firebase for cloud sync, providing real time patient vital statistics for clinical use.
2. Built a React QR code validation system for field engineers, allowing instant checks of schematic versions to prevent the use of outdated documentation on site.
3. Reduced manual inspection time at PepsiCo by 60% by developing a computer vision QA system with a Java Spring backend, enabling real-time defect detection and streamlined quality assurance processes.
4. Led development of an Angular & Laravel cloud-based food safety tracing platform resulting in a major reduction in compliance faults.
5. Created a secure merchant portal system using Node.js, Express, and MongoDB, implementing protections against the OWASP Top 10 vulnerabilities to ensure safe & secure file uploads and controlled metadata access for privileged users.

PROJECTS

[1] **Patient Monitoring** — Developed a React Native app that ingests serialized data from surgical monitoring equipment and display real time patient vital statistics. Allows clinicians to record procedure process electronically and displays second-by-second vital signs with annotated procedure logs. Designed for cross-platform deployment and built with real-time data accuracy and clinical usability in mind.

[2] **Drawing Validation System** — Led the development of a React project made to enhance version control and traceability across projects in an electrical engineering firm. Built using React Native and Firebase, the system allows engineers and architects to generate QR codes linked to live validation pages for technical drawings. Field teams can instantly verify whether physically printed plans are current, significantly reducing the risk of using outdated documentation on-site.

[3] **PackLIMS** — Participated as a core member of the team developing a machine learning-driven computer vision system adopted by PepsiCo that automated quality assurance on the bottling line by detecting underfilled or defective bottles in real time. Leveraged Python and OpenCV to train and deploy models integrated with high-speed industrial cameras, and built a Java Spring backend to manage data flow and system integration—resulting in a 60% reduction in manual inspection time and significantly improving throughput and consistency across production. ([Read more](#))

[4] **HACCP Tracker** — Led the development of a Laravel-based platform for tracking food safety data from kitchen supplier to plate, integrating with third-party API-connected thermometer sensors to enable real-time monitoring of food storage and preparation conditions. Collaborated directly with clients through weekly consultations to deliver tailored features, resulting in a notable reduction in compliance faults and significantly improving daily operations for kitchen staff.

[5] **Secure File Upload & Access Control System** — Created a secure file upload and access control system using Node.js, Express, and MongoDB. All uploaded files were sanitised and scanned for malware before storage. Critical focus on implementing OWASP best practices, including RBAC, CSRF protection, session management, and AES-256 encryption. The system allowed privileged users to view uploaded file metadata via an admin panel, while maintaining strict access control and data validation for nonprivileged users.

HOBBIES & ACTIVITIES

- Mentoring & Peer Support – Informally mentoring student and aspiring developers in best coding practices & application design.
- Lifelong learner – Actively pursuing a master's degree in Artificial Intelligence, with a particular interest in autonomous vehicles.
- DIY Electronics & Embedded Projects – Hardware projects involving Raspberry Pi, microcontrollers, sensors, and home automation systems.
- Motorsport Enthusiast – Active supporter and participant in motorsport events, with a special interest in vehicle telemetry & data analysis.