Ziad Makkawi

Software Engineer

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Profile

Software engineer working from backend systems toward ML inference. Delivers HaloPSA and ITSM consultancy for clients at XMA and is founding engineer at LeedAB, an AI-native trade operations platform for physical commodity exporters. First-class BSc in Software Engineering. Building C++ and ML systems skills through a self-directed inference roadmap.

Skills

Languages: Python, C++, TypeScript, Java, C#, Go
Frontend & Mobile: React, Next.js, Flutter, Dart
Backend & Data: .NET Core, PostgreSQL
AI & ML: LLM agents (GLM), MCP, TensorFlow, model quantisation
Platforms & Tools: HaloPSA, ITSM, Git, Docker, CI/CD

Experience

TECHNICAL CONSULTANT, XMA *NOTTINGHAM, UK. JAN 2026 TO PRESENT*

- Deliver technical consultancy and implementation services to clients across IT service management and professional services, specialising in HaloPSA configuration, workflow automation and ITSM platform deployment.
- Work closely with clients to understand their challenges, scope solutions and deliver outcomes across onboarding, system configuration and ongoing support.
- Contribute to the buildout of XMA's Professional Services practice from the ground up.

FOUNDING ENGINEER, LEEDAB *JUN 2026 TO PRESENT*

- Founding engineer of an AI-native trade operations platform for physical commodity exporters, bringing the documents, messages and shipment data traders work across into one system.
- Design and build LLM agents (GLM) that verify trade documents against contract and letter of credit terms and flag discrepancies before they cause rework or delays.
- Build the integration layer connecting messaging, email and trade tools so agents can act across a trader's existing workflow, plus shipment tracking across trade corridors.
- Work with commodity exporters and traders to shape the product around how trades actually run.

SOFTWARE ENGINEER INTERN, NHS *NOTTINGHAM, UK. AUG 2024 TO SEPT 2024*

- Boosted simulation tool accuracy by validating patient flow models in Python, improving resource allocation by 20% across scenarios.
- Developed GDPR-compliant GitHub guidelines and presented workflow automation and testing outcomes at the NHS-R community webinar.

SOFTWARE ENGINEER INTERN (REMOTE), THEIRCIRCLE *TORONTO, CANADA. AUG 2023 TO MARCH 2024*

- Implemented responsive UI components and dynamic feature modules, increasing user engagement by 35%.
- Optimised backend API integration, improving data retrieval performance by 40% on iOS and Android.
- Built and deployed a CI/CD pipeline, automating testing and deployment and reducing release times by 25%.

Projects

INFERENCE LAB (C++, WEBASSEMBLY, TYPESCRIPT) *2026*

- Built a browser digit classifier with an int8-quantised MLP (784-64-10) and an inference engine in C++ compiled to WebAssembly, with a TypeScript fallback, reaching 97.83% accuracy on the MNIST test set.
- Added an interactive comparison of fp32, int8, int4 and int2 precision showing the size and accuracy trade-offs.

BRAIN TUMOUR CLASSIFICATION (PYTHON, TENSORFLOW) *SEPT 2022 TO APRIL 2023*

- Implemented a VGG16 convolutional neural network for classifying brain MRI images, achieving 89% accuracy, and integrated it into an Anvil web app for instant results from uploaded scans.

GREENPARK (REACT, TYPESCRIPT, MYSQL, POSTGRESQL) *JUL 2024*

- Led a team of 4 developers to build a real-time park & ride guidance app using React and RESTful APIs, integrating live car park occupancy and public transport data, with gamification and CO_2 route planning to promote sustainable transport.

Education

NOTTINGHAM TRENT UNIVERSITY *NOTTINGHAM, UK. SEPTEMBER 2020 TO JULY 2023*

- Bachelor of Science in Software Engineering. 1st Class With Honours

BOOT.DEV BACK-END DEVELOPMENT *REMOTE. AUGUST 2025 TO JANUARY 2026*

- Intensive backend engineering curriculum covering Python, Go, SQL, HTTP servers, Docker, system design and AI agents.