

MICHAEL MC CURTIN

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PROFILE

Software engineer with experience building conversational AI systems and agentic workflows in production. Delivered full-stack platform work spanning LangGraph application development, Kubernetes deployment, and observability instrumentation at Ericsson. Experienced in driving tool adoption across engineering teams and building resilient, well-tested software. Comfortable working close to AI/ML frameworks and developer ecosystems.

WORK EXPERIENCE

Ericsson July 2025–present
Software Engineer (Greenfield Agentic AI Product: Python, LangGraph, FastAPI) *Athlone, Ireland*

- Parallelised MCP server discovery at startup with timeouts and partial-failure tolerance, eliminating pod crashes from unreachable servers. Implemented client expiry, refresh, and reconnection logic for long-running connections.
- Drove adoption of Kiro coding assistant across 13 engineers: authored steering files, custom skills (E2E testing, root-cause analysis), and a platform knowledge base; delivered two team sessions and a cross-team presentation reaching 50+ engineers department-wide.
- Refactored agent authentication (OAuth2) to be fully stateless, threading tokens from the frontend through the agent stack to MCP tools.
- Instrumented Prometheus histograms per LangGraph node for LLM token consumption (input/output/total), enabling attribution of token costs across agent workflow steps.
- Authored and maintained E2E test cases for agentic planning, recording Langfuse golden-run traces and tuning prompts/tool descriptions for reliability.
- Designed runtime-overridable system prompts via Kubernetes ConfigMaps with hot-reload, enabling prompt iteration on customer systems without redeployment.
- Migrated project to uv (a modern Rust-based Python package manager), delivering $2.5\times$ – $36\times$ faster installs and a net 5-minute CI pipeline speedup.
- Packaged and deployed the application via custom Jenkins pipeline stages and Helm chart configuration; extracted LLM API keys and credentials into Kubernetes secrets.

Ericsson Jun–Aug 2023, Jan–Aug 2024
Software Engineer Intern (Service Management Platform: Java/Spring Boot) *Athlone, Ireland*

- Delivered backend features across multiple microservices supporting service management and orchestration workflows.
- Added OpenTelemetry-based distributed tracing to Kafka handlers, improving observability and reducing debugging effort across services.
- Automated OpenAPI spec separation (internal vs. external), simplifying third-party integration.
- Conducted an architecture review of system design and service interaction diagrams in collaboration with senior architects, eliminating documentation drift.

EDUCATION

BSc Computer Science & IT, University of Galway, Ireland

2021-2025 (First Class Honours)

- Academic Excellence Scholarship (2021–2022)
- Key Modules: Software Engineering, Distributed Systems, AI/ML, Data Structures & Algorithms

PROJECTS

- **Final Year Project** – Built an applied NLP pipeline using HuggingFace Transformers and Gliner for entity-relation extraction across 100k+ online comments; generated an RDF knowledge graph of 110k+ triples. Explored supervised fine-tuning before determining the pretrained model met accuracy requirements. [\[GitHub\]](#)
- **Hacker News Redesign** – Angular SPA: Modular architecture, responsive UI. [\[GitHub\]](#)

TECHNICAL SKILLS

Languages & Frameworks: Python, Java, Spring Boot, FastAPI, Streamlit

Databases: PostgreSQL, DuckDB

AI & ML: LangGraph, LangChain, FastMCP, HuggingFace (Embeddings, SentenceTransformers)

Observability: Langfuse, Prometheus, OpenTelemetry

Infrastructure & Tooling: Docker, Kubernetes, Kafka, Jenkins, Bash, CI/CD, Linux

ACTIVITIES AND INTERESTS

- **CTF Champion** – 1st Place, University of Galway CTF (2025); led a 4-person team in web exploitation and reverse engineering.
- **CoderDojo Mentor** (2018–2020) – Taught programming (Scratch, Python, Unity) to young learners.