Nicholas Muir

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Backend Software Engineer with a Master's in Computer Science and a genuine passion for AI/ML. I love getting my hands on hard problems — owning them from first principles to final delivery — and doing my best work in teams where speed and impact actually matter.

EXPERIENCE

Aqqo, Netherlands —Software Engineer

March 2025 - PRESENT

AI integrations

- Architected LLM orchestration layers, prompt handling, and context management for production AI tools.

- Integrated AI tooling and retrieval-augmented systems to synthesize knowledge base and support ticket data.

- Shipped natural language query interfaces connecting conversational UI to backend AI processing pipelines.

Platform Optimisations

- Integrated third-party services and APIs into legacy infrastructure without disrupting existing systems.

- Managed production deployments and infrastructure, ensuring uptime for internal teams and enterprise clients.

Solo Platform Ownership

- Sole platform team member owning discovery, planning, and delivery end-to-end

- Ran internal stakeholder interviews to capture requirements and define scope

- Acted as PO: roadmap planning, spec writing, backlog prioritization, timeline management

- Took stakeholder needs directly from interview to implementation with zero handoffs

Fullstack Features

- Built end-to-end features from frontend UI/UX flows to backend business logic and data layers

- Implemented authentication, authorization, and security standards across internal and external applications

SKILLS

PHP, SQL, Python, LLM Orchestration, RESTful API Design, Machine Learning

SOFT SKILLS

- **Self-Direction** — I take initiative and drive work forward without needing direction.

- **Ownership Mindset** — I own projects end-to-end, from first idea to final delivery.

- **Relationship Building** — I build trust with stakeholders and turn their needs into clear outcomes.

- **Communication** — I communicate clearly with both technical and non-technical teams.

- **Adaptability** — I adapt quickly when priorities shift and thrive in fast-moving environments.

Zero2One Digital, South Africa —*Software Developer*

April 2022 - Feb 2025

- Built and maintained features across the stack in Laravel and PHP, working on both backend logic and frontend presentation layers

- Implemented responsive UI components with Vue.js and Livewire to enhance interactivity and user engagement

- Supported production deployments on AWS and Azure via Laravel Forge and Envoyer, ensuring stable hosting environments

- Connected applications to third-party services through REST API integrations, adding new capabilities to existing platforms

- Used Git daily within team workflows on GitHub and Bitbucket, contributing to clean version control and collaborative development practices

Squid Academy, South Africa — *Software Developer*

Dec 2020 - April 2021

- Sole developer responsible for designing and building a multi-page e-commerce and e-learning platform on WordPress,

implementing custom payment gateways and sales funnel plugins

- Integrated video management capabilities into the e-learning environment to improve content delivery and user

engagement

- Refactored database structures to improve data retrieval speed and support platform scalability as usage grew

EDUCATION

The University of the Witwatersrand, Johannesburg South Africa — *MSc Computer Science*

Jan 2022 - Dec 2024

Masters Dissertation - Bridging Learning and Planning for Construction in a 3D Environment

Development of a framework that leverages the convenient outcome of planning methods to plan complex tasks that can be completed in any complex environment with a partially observable state space.

The University of the Witwatersrand, Johannesburg South Africa — *BSc Computer Science with Honors, achieved with Distinction*

Jan 2016 - Dec 2021

Relevant Courses:

- Digital Image Processing
- Natural Language Processing
- Adaptive Computation and Machine Learning
- Robotics
- High Performance Computing and Scientific Data Management
- Applications of Algorithms

Honors Project - Procedural Content Generation Through Evolutionary Search and Reinforcement Learning

Generation of Super Mario levels using a Genetic Algorithm and optimizing the generation speed through Reinforcement Learning.

PUBLICATIONS

Procedural Content Generation Through Evolutionary Search and Reinforcement Learning — *2022*

https://arxiv.org/abs/2207.14772