

George Mugale

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LinkedIn: [link](#) | GitHub: [link](#) | Portfolio: [link](#)

Professional Summary

Full-Stack Software Developer with a BSc in Computer Science (Distinction) and a proven track record of building scalable web applications, authoring open-source developer tools, and deploying cloud-native infrastructure. Strong background in modern DevOps practices, including CI/CD automation, containerization, and cloud infrastructure deployment. Passionate about system design, open-source tool creation, and delivering secure, high-performance solutions in collaborative Agile environments.

Technical Skills

- **Programming Languages:** TypeScript, JavaScript, Python, Java, C#, PHP
 - **Frontend Frameworks:** React, HTML5, CSS3, Flutter, JavaFX, Tkinter
 - **Backend Frameworks:** Node.js, Express, FastAPI, Django, ASP.NET, Laravel
 - **Cloud & DevOps:** AWS (EC2, S3, RDS, CloudFront), Docker, Terraform, Ansible, GitHub Actions (CI/CD), Git, Linux Servers
 - **Databases:** PostgreSQL, MySQL, MSSQL, MongoDB, SQLite
 - **Methodologies & Architecture:** Agile/Scrum, RESTful APIs, Microservices, Role-Based Access Control (RBAC), System Design
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Professional Experience

Full-Stack Developer Internship (Remote)

Lipila Technologies | Jan 2026 – Present

- Develop and maintain scalable full-stack applications utilizing React, Python (Django), and PostgreSQL to meet dynamic business requirements.
- Design and document RESTful APIs incorporating secure authentication, authorization, and role-based access control (RBAC).
- Improve core system performance by optimizing database queries, implementing indexing strategies, and refining backend logic.
- Architect and maintain CI/CD pipelines utilizing GitHub Actions to enable automated testing, continuous integration, and streamlined deployments.
- Containerize microservices and applications using Docker to guarantee environment consistency across local development and production servers.
- Participate actively in Agile Scrum workflows, contributing to sprint planning, backlog grooming, daily stand-ups, and sprint retrospectives.
- Conduct comprehensive code reviews, enforcing clean code principles, maintainable architecture, and collaborative Git branching strategies.

Marking Assistant

Academy of Computer Science and Software Engineering (UJ) | Feb 2025 – Oct 2025

- Assessed practical coding assignments and invigilated examinations for Computer Science 1 modules.
 - Provided targeted, constructive feedback to students to elevate their coding standards, algorithm logic, and problem-solving skills.
 - Enforced strict adherence to academic marking guidelines to maintain integrity and educational standards.
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Open-Source Contributions

Creator & Maintainer | **ORM-DAO-Simplified (NPM Package)** | [link](#)

- Designed and published a lightweight, type-safe DAO library for MySQL as a highly performant alternative to traditional full-scale ORMs.

- Leveraged TypeScript generics and interfaces to enforce compile-time safety and ensure a clean separation of data access logic.
- Implemented reusable CRUD abstractions, parameterized queries, and transaction support, significantly reducing SQL boilerplate.

Creator & Maintainer | Express HTTP Status Handler (NPM Package) | [link](#)

- Developed and deployed a lightweight Node.js middleware utility to standardize HTTP response handling across Express applications.
 - Engineered the package to minimize boilerplate code for API error management, enhancing code readability and maintainability for the developer community.
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Technical Projects

- **Zambia Constituencies Explorer ([demo](#)):** Built and deployed a data visualization tool using Python, FastAPI, and Vanilla JavaScript to scrape, process, and display regional data.
 - **AWS Full-Stack Deployment (backend: [link](#), frontend: [link](#)):** Engineered the cloud infrastructure and deployed a Node.js/Express and MySQL backend to AWS EC2 and RDS, alongside a React frontend hosted on S3 and distributed via CloudFront.
 - **Water Quality Detector ([link](#)):** Built a desktop Java/JavaFX application integrating custom-built graph-based machine learning algorithms (k-NN, MST, Graph Edit Distance) for real-time water quality analysis.
 - **Multi-Vendor Marketplace:** Architected a scalable LAMP stack and React platform, designing a modular backend, optimizing concurrent database schemas, and implementing comprehensive session management.
 - **E-Commerce Platform:** Co-developed a responsive ASP.NET application utilizing C# and LINQ to SQL, focusing on server-side validation and query optimization for accelerated page loads.
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Education

- **BSc in IT, Computer Science & Informatics (Completed with Distinction - NQF Level 7)**
University of Johannesburg | 2025
- **Bachelor's Pass** Empangeni High School | Class of 2021

Certifications & Training

- **IBM SkillsBuild:** Build an AI Agent (Dec 2025)
- **Johannesburg Business School (JBS):** Programming & GRIT Bootcamp (Completed with Merit, 2023)
- **University of Johannesburg:** Artificial Intelligence in the 4IR
- **FNB App Academy:** Application Development Training