IVAN AGABA

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SOFTWARE DEVELOPER

Talented software developer with nearly 3 years of experience on various projects. Hands-on involvement in the design, implementation, testing, and deployment stages of the Software Development Life Cycle. Adept at navigating the Agile methodology and collaborating closely with cross-functional teams. Comfortable with Java, Spring, Git, and Docker.

Object-oriented programming (OOP) • Dependency Injection • SOLID • Design Patterns • ACID • Agile
AWS • Web services • Data Structures and Algorithms • Backend • Micro-services
Database Development • Test-Driven Development (TDD)

Languages: Java
Web: Javascript
Web Services: REST
Web/App Servers: Tomcat
Frameworks: Spring (MVC, Boot, Security, Cloud, Data, Testing, Dependency Injection), Hibernate, ReactJS, NodeJS
Databases: MySQL, Postgres, Mongo
Design Patterns: Singleton, MVC, Prototype, Observer, Session, SessionFactory, Factory
SDLC: Agile/Scrum
Tools: Maven, Eclipse, Intellij, Spring, Git, Docker, VSCode, JUnit, Kafka
Platforms: Windows, Linux

PROFESSIONAL EXPERIENCE

*CAREER NOTE: Completed on-campus studies and currently taking distance education courses to complete a **Master's Degree in Computer Science** (Available for full-time, W-2 employment).*

ALTEC MMXIV, Kampala, Uganda • 08/2021 – 07/2023
Logistics and technology engineering services.

Machine Learning Engineer
Development of machine learning models.

- Developed an environment in Gazebo using ROS (Robot Operating System) for simulation purposes which was utilized for testing the reinforcement learning model and assessing its performance.
- Created a Python-based process to collect and analyze wind speed data from various sources enabling efficient collection and analysis of wind speed data.
- Designed and implemented a Reinforcement Learning model for UAV motion planning using TensorFlow and Python resulting in optimized autonomous navigation capabilities.
- Implemented testing protocols using PyTest to assess the performance of the Reinforcement Learning model ensuring robustness and reliability in real-world scenarios.
- Administered performance comparisons between the Reinforcement Learning model and traditional path planning methods yielding insights into the advantages of the RL approach in UAV motion planning.
- Executed comprehensive performance evaluations using MATLAB to validate the effectiveness of the Reinforcement Learning model in UAV motion planning providing quantitative evidence of its superiority over traditional methods.

Technologies Used: *Gazebo, ROS, TensorFlow, PyTest, MATLAB, Git, NumPy, Jupyter Notebook*

SELECTIVE INVESTMENTS LTD, Kampala, Uganda • 01/2019 – 07/2021
Printing company.

Software developer (part-time paid)
Developed an application for an e-commerce platform.

- Designed software architectures using Java and Spring Framework, resulting in robust systems that adhered to best coding practices and enhanced overall reliability.
- Administered databases using MySQL, enhancing query performance and speeding up response times for end-users.
- Built user interfaces using React and JavaScript, resulting in intuitive interfaces that improved user experience and accessibility.
- Designed and implemented RESTful APIs using Java, resulting in seamless integration with external systems and improved interoperability.
- Implemented security measures using OAuth2, resulting in enhanced data protection and reduced risk of unauthorized access to sensitive information.

Technologies Used: Kafka, Docker, MongoDB, Maven, JUnit, Spring Security, RESTful Web Services, Hibernate, Spring Boot.

ACADEMIC PROJECTS

Maharishi International University (2024) Property Management System: Development of a property marketplace system using Java Spring for the backend and React for the front end. My responsibilities were to implement the RESTful APIs in Java Spring and handle the user authentication using OAuth2. Utilized Java, Spring, React, Node

Maharishi International University (2024) Electronic Badge System: Development of a RESTful application for an Electronic Badge/ Attendance system. My responsibility was developing the API backend for an Electronic Badge/Attendance System using Java with Spring Framework. Utilized Java, Spring

EDUCATION

Master of Science in Computer Science
(In progress via distance education; expected completion 04/2026)
Maharishi International University, Fairfield, Iowa

Key Courses: Web Application Architecture, Enterprise Architecture, Web Application Programming, Algorithms

Bachelor's in Electrical Engineering
Makerere University, Kampala, Uganda (2022)