

Stuart Asiimwe

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I’m a passionate and reliable software engineer with a focus on machine learning, secure software design, and backend development. I work well with others, communicate clearly, and can also get things done independently with little supervision.

I graduated top of my class with First Class Honors in Computer Science. For my undergrad project, I built and deployed a web app using Flask, implementing a RESTful API to serve predictions from a custom-trained TensorFlow ML model. The backend handled image uploads, input preprocessing, ran the inference pipeline, and returned results as JSON responses, showcasing my ability to build real-world, ML-integrated backend systems.

I later earned a Master’s in Computer Science, specializing in secure software development and machine learning. During my studies, I presented research on dynamic feature engineering using SHAP values at an international conference, contributing to the cutting-edge work in cybersecurity and ML.

My technical skills spans DevOps, data analytics, and end-to-end ML pipeline management. I'm proficient in Python and JavaScript, with working knowledge of Java and C++. I’ve built and deployed backends with Node.js, MySQL, and MongoDB, optimized workflows using GitHub CI/CD, and leveraged AWS and Docker for cloud-native solutions. I’m also familiar with Kubernetes, Kafka, Spark, and system monitoring tools like Prometheus and Grafana.

Additionally, I have hands-on experience with reverse engineering and vulnerability analysis using tools like IDA Pro and OllyDbg.

My background equips me to take on high impact projects and contribute meaningfully in Software Engineering, Backend Development, AI and cybersecurity.

Work Experience 2 years 10 months



SeoulTech

2025.03 - Present (7 months) | Full-time Employee | AI Research Engineer

AI Agents & Digital Twins Development

2015.03 - 2025.04 | Team Lead

Pioneering research and development of AI-driven digital twins that simulate microbial and metabolic systems.
Computational Modelling and Simulations



Software Security Lab

2023.04 - 2025.02 (1 year 11 months) | Full-time Employee | ML Researcher

Reverse Engineering

2024.01 - 2025.01

Analyzed firmware and binary code using IDA Pro and OllyDbg, identifying critical security flaws in embedded systems with a 92% vulnerability detection rate.

Reverse-engineered proprietary system binaries to map out execution flow and inject runtime hooks for behavior monitoring.

Algorithm Development

2024.01 - 2025.01

Developed an algorithm for secure dynamic feature engineering in ensemble classifiers to optimize threat analysis accuracy and enhance model reliability (xAI) for Windows, IoT, and embedded systems.

This work was presented at the International Conference on Convergent and Smart Systems.

Security Automation Testing

2023.04 - 2025.01

Analyzed diverse datasets to extract actionable insights.

Built automation scripts for fuzzing and static analysis that reduced manual testing time by ~60%, using Python and CI/CD pipelines.

Designed and executed over 150+ security test cases, validating backend components for robustness under attack vectors.



StratCommunications Limited

2019.05 - 2019.08 (4 months) | Intern | Software Developer

Backend API Design

2019.05 - 2019.08

Contributed to the design and implementation of RESTful APIs, gaining hands-on backend experience using Python and Node.js.

Helped deliver functional modules that integrated into a CRM system, supporting 2+ core system features and improving modularity and maintainability.

Bug Fixing

2019.05 - 2019.08

Collaborated closely with senior developers to identify and resolve over 5+ bugs, directly improving backend reliability and system uptime.

Scalable CRM System Development

2019.05 - 2019.06

Supported the development of a web-based CRM platform, integrating scalable backend solutions to improve client response performance.

Enhanced API response handling and caching mechanisms, contributing to a 15–20% decrease in average client response time.

Education



Hanyang University

2023.03 - 2025.02 | Graduated | Master of Computer Science

Cybersecurity

Reverse Engineering

Machine Learning



Ndejje University

2017.08 - 2021.03 | Graduated | Bachelor of Computer science

Data Structures and Algorithm

Skills

Git

GitHub

Linux

MySQL

React

HTML

JavaScript

Node.js

Python

TypeScript

Docker

AWS

PyTorch

SQL

JPA

Awards & Others



Python Package - BlackBoxML

2025.04 | Others

Developed a Python package that automatically patches `tf.keras.Model.fit()` to log training metrics without requiring any changes to the existing code workflow — even if users forget to include logging manually.



Software Engineer Certification

2024.08 | Others

Completed a 90-hour intensive Software Engineering certification program on HackerRank.



International Symposium

2024.07 | Others

Presented my Work on the SHAP-Based ML Algorithm



ICT Club President

2016.10 | Others

Served as the leader of the ICT club, where I designed the club's first database system using Visual Basic (VB).

Languages



English | Native



Korean | Business

TOPIK 4 | 2022.10.16

Related Links

 [github](https://stuartasiimwe7.github.io)

<https://stuartasiimwe7.github.io>

 [linkedin](https://www.linkedin.com/in/stuartasiimwe/)

<https://www.linkedin.com/in/stuartasiimwe/>

 [BlackBoxML](https://github.com/stuartasiimwe7/blackboxml)

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