

Tariq Nasser Deen

[🔗 Portfolio](#) [LinkedIn](#) [GitHub](#) [LeetCode](#) [CodeForces](#)

Education

University of Ghana

Bachelor of Science in Computer Engineering

01/2021 – 02/2025 | Accra, Ghana

- First Class Honours
- **Relevant Coursework:** Object-Oriented Programming, Data Structures and Algorithms, System Design and Analysis, Discrete Maths, Numerical Methods, Introduction to Software Engineering, Introduction to Database Systems, Operating Systems.

Professional Experience

A2SV

Software Engineer Fellow

03/2024 – present | Accra, Ghana

- Developed a cross-platform app using the **Flutter** framework, enabling hosts to list properties and tenants to compare options, driving a **17% increase in tenant acquisition** through enhanced efficiency.
- Integrated **Google Maps** SDK for real-time location visualization and area-based search, boosting tenant engagement by **25%**.
- Implemented **Firebase Authentication** and **Firestore** for secure logins and NoSQL data storage, slashing backend development time by **40%**.

Mon and Associates

Software Engineer Intern

05/2023 – 08/2023 | Accra, Ghana

- Built a Real Estate Listing platform for agents using **PHP, MySQL, and WordPress**, integrating **Stripe** for secure payments and **Google Maps API** for location visualization, driving a **15% increase in tenant acquisition** and scaling to **1,000+ daily interactions**.
- Engineered backend features (user authentication, booking management) and optimized frontend performance with **HTML/CSS/JavaScript**, reducing payment failures by **20%** and enhancing user engagement.
- Leveraged **AWS S3** for scalable image storage and streamlined data workflows, improving platform reliability and enabling real-time booking accessibility.

Zuri

Software Engineer Intern

05/2022 – 08/2022 | Accra, Ghana

- Collaborated with the core development team to build a **Flutter (Dart)** desktop app with **Electron.js** for cross-platform support, enabling real-time investor analytics and dynamic visualizations using **WebSocket**, which improved user satisfaction by **30%**.
- Designed a search/filter feature with **Firebase Realtime Database** for instant updates and seamless synchronization, reducing listing discovery time by **40%** through keyword and category filters.
- Developed backend APIs with **FastAPI** for asynchronous data processing and integrated **Redis Pub/Sub** to handle high-frequency stock updates, driving a **0.5% average increase in user portfolio performance**.

Projects

Campus Shuttle Management System (ShuttleApp)

- Built an **Android** mobile application using the **Flutter** framework integrated with **Firebase Realtime Database** and **Google Maps API**, enabling real-time shuttle tracking and schedule management, reducing average wait times by **30%** for **10000+ students** across four hostels.
- Leveraged Firebase Cloud Messaging for automated push notifications and Geolocator for live GPS updates, driving a **25% increase in user engagement** through timely alerts on arrivals and delays.
- Designed UI/UX in **Figma** and implemented Providers for state management, iterating via user feedback to achieve a **15% boost in satisfaction scores** and seamless shuttle operations.

Smart Trolley With Payment System For Convenient Shopping

- Engineered an **RFID-powered Smart Trolley** using **Arduino ESP32** and **RFID sensors**, automating item tracking and checkout to reduce manual errors by **45%** and cut checkout time by **30%**.
- Built a cross-platform mobile app (**Flutter, Firebase**) with **real-time BLE/Wi-Fi sync** and **Stripe payments**, streamlining access to **1,000+ product listings** and enhancing customer convenience.
- Implemented a collaborative filtering ML model (**Python/Scikit-learn**) and IoT protocols (**MQTT/Blynk**), driving **25% higher engagement** via personalized recommendations and scalable **AWS cloud deployment** for future optimizations.

Machine Learning Model for Road Segment Identification

- Achieved **92% IoU accuracy** using a **DeepLabV3+** pipeline (PyTorch/TensorFlow), preprocessing datasets with **OpenCV** and **Albumentations** to enhance model robustness for road identification.
- Optimized training efficiency by **30%** through hyperparameter tuning and **ResNet** fine-tuning, enabling real-time inference on edge devices.
- Presented findings to academic peers, contributing to a **15% improvement** in baseline benchmarks for autonomous navigation research.

Skills

Programming Languages: – Python, Java, JavaScript, TypeScript, C, C++, Dart, SQL, HTML/CSS, TypeScript, PHP. | **Frameworks:** – Flutter, Bootstrap, Flask, Django, FastAPI, TensorFlow, PyTorch, Keras, Scikit-learn, Pandas, NumPy, OpenCV, JUnit testing. |

Databases: – MySQL, PostgreSQL, MongoDB, Firebase. | **Tools:** – Jupyter, MATLAB, Figma, Microsoft Office Suite

Certificates

- AWS Certified Cloud Practitioner 