

Tariq Nasser Deen

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Education

University of Ghana

01/2021 – 02/2025 | Accra, Ghana

Bachelor of Science in Computer Engineering

- 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

03/2024 – present | Accra, Ghana

Software Engineer Fellow

- 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

05/2023 – 08/2023 | Accra, Ghana

Software Engineer Intern

- 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

05/2022 – 08/2022 | Accra, Ghana

Software Engineer Intern

- 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 (ShuttApp)

- 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 [🔗](#)