

# Tariq Nasser Deen

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🔗 LeetCode    🏠 Codeforces

## EDUCATION

### BSc. Computer Engineering

University of Ghana

01/2022 – present  
Accra, Ghana

**Grade:** First Class Honours.

**Relevant Coursework:** Object-Oriented Programming (Java), Data Structures (C/C++), Intro to Design and Programming for Web (HTML & CSS/Bootstrap), Design and Programming for Web (DJANGO & SQL), Introduction to Data Science, Introduction to Database System, Operating System.

## PROFESSIONAL EXPERIENCE

### Software Engineer

A2SV

03/2024 – present  
Accra, Ghana

- Collaborated with a team of five to develop a Human Resource Management System designed to track and evaluate the activities of individuals within an organization.
- I leveraged Django, HTML, CSS, and Javascript to build the user management features, ensuring a seamless and user-friendly experience.
- Presented the project at a hackathon, securing first place among six competing teams.
- Also worked with a cross-functional team to develop a mobile/ web application for accommodation booking using Flutter.
- Integrated user-friendly features enabled hosts to add their accommodation listings and features that allow tenants to compare accommodation options, enhancing the platform's efficiency for both tenants and hosts.
- The project resulted in a 17% increase in tenant acquisition for accommodation hosts.

### Software Engineer Intern

Mon and Associates

08/2023 – 11/2023  
Accra, Ghana

- Contributed to the development of a web application for booking apartments and hotels
- Utilized **PHP**, **MySQL**, and **WordPress** to build and customize the platform, optimizing performance and user experience.
- Integrated front-end and back-end features, including user authentication, booking management, and payment processing, to ensure seamless functionality.
- Deployed the web application providing real-time access to booking services, with usage scaling to **over 1,000 interactions daily**.
- The application increased tenant acquisition for listed hotels and apartments **by 10% to 15%**, driving higher occupancy and revenue through enhanced booking capabilities.

### Software Engineer Intern

Zuri Team

09/2022 – 12/2022  
Accra, Ghana

- Contributed to the creation of a robust desktop application using **Flutter**, delivering real-time analytics and intuitive visualizations for investors; the application **improved investor satisfaction ratings by 30%** based on user feedback and engagement metrics.
- Created a comprehensive feature that enables users to search for, filter, and view listings within the application. This functionality allows users to efficiently locate specific listings by entering keywords, applying various filters (such as category, price range, or location), and viewing the results in an organized manner.
- By enhancing insights into stock trends, the platform contributed to an average **0.5% increase** in its users' portfolio performance.

## RESEARCH EXPERIENCE

### Smart Trolley With Payment System For Convenient Shopping

Undergraduate thesis, University of Ghana

10/2023 – 09/2024  
Accra, Ghana

- Developed a **Smart Trolley** system leveraging RFID technology and an integrated payment system to enhance retail shopping efficiency, accuracy, and customer convenience.
- Designed and programmed the trolley using the Arduino **ESP32 microcontroller**, enabling automation of item identification, tracking, and real-time expense monitoring.
- Developed a mobile application with features for browsing products, viewing personalized recommendations, and facilitating secure in-app payments.
- Developed a machine learning model leveraging collaborative filtering and user purchase history to generate personalized product recommendations, enhancing customer engagement and optimizing shopping experiences.
- Streamlined the shopping process by reducing checkout times, minimizing manual errors, and improving operational efficiency. Enhanced customer satisfaction and supported sustainable retail practices through digital solutions.

### Machine Learning Model for Road Segment Identification

Research Assistant

09/2023 – 11/2023  
Accra, Ghana

- Conducted research on image classification techniques to develop a model for identifying road segments in images.
- Collaborated with a professor and a coursemate to preprocess datasets, fine-tune machine learning models, and evaluate performance metrics.
- Utilized deep learning frameworks (e.g., TensorFlow, PyTorch) for feature extraction and model training.
- Presented findings and insights to peers and academic mentors, contributing to advancements in computer vision research.

## PROJECTS

### ShuttApp

#### Mobile Application

- Directed the development of a **school shuttle mobile application** using **Flutter** and **Firebase** for real-time data management and backend services.
- Designed and integrated features tailored to the needs of students, including shuttle tracking, schedule management, and notifications.
- Successfully **reduced average wait times by two minutes**, improving transportation efficiency and enhancing user convenience for residents of four campus hostels.

### Terra

#### Web/Mobile Application

- Collaborated with a cross-functional team to develop a mobile/ web application for accommodation booking using Flutter.
- Spearheaded the development process, resulting in a significant increase in tenant acquisition for accommodation hosts.
- Integrated user-friendly features that streamlined the booking experience, enhancing the efficiency of the platform for both tenants and hosts.

### The Exorcist

#### Video Game

- Partnered with a coursemate to design and develop a 3D video game as part of a course project, utilizing **Unity 3D** for cross-platform game development.
- Implemented core gameplay mechanics, physics, and interactive elements to enhance player experience, focusing on both functionality and engagement.
- Integrated 3D models, animations, and audio assets, ensuring seamless interaction and immersive gameplay.
- Created comprehensive project documentation, detailing game architecture, design decisions, development processes, and user instructions, aligning with best practices for software development.
- Conducted iterative testing and performance optimization to improve game stability, responsiveness, and frame rates across different devices.

## LEADERSHIP EXPERIENCE

### Head of Information Technology

Accra, Ghana

#### Enactus - University of Ghana Chapter

- Directed a cross-functional IT team in the design, development, and deployment of a school shuttle mobile application built with Flutter and Firebase, ensuring timely delivery and alignment with user needs.
- Oversaw feature planning, task allocation, and progress tracking, resulting in successful adoption by residents of four out of sixteen hostels on campus, with plans for campus-wide rollout.
- Spearheaded the optimization of the organization's website via WordPress and PHP, enhancing user experience and content strategy, which drove student recruitment efforts and doubled enrollment from 30 to 70 students.
- Coordinated ongoing maintenance and updates for the organization's official website, enhancing site reliability, optimizing performance, and ensuring timely publication of critical information.

### General Secretary

Accra, Ghana

#### Arm(E3)ngage Students Club - University of Ghana

- Coordinated and facilitated club activities, ensuring smooth execution of workshops, seminars, and collaborative events focused on ARM-based technologies and embedded systems.
- Provided mentorship and technical guidance to members, supporting their engagement in ARM-related initiatives, prototype development, and research projects.
- Fostered a collaborative environment that encouraged knowledge-sharing, peer learning, and practical application of embedded systems concepts in real-world projects.
- Liaised with external partners, guest speakers, and faculty advisors to secure resources, sponsorships, and technical expertise for club-led initiatives.

## SKILLS

### Technical skills

Python, PHP, MySQL, Java, C++, JavaScript, HTML, CSS, Django, Node. JS, WordPress, XAMPP, MATLAB, Flutter, FAST API, REST API, Git, GitHub, JIRA, Arduino, Arduino C.

### Soft skills

Leadership, Communication, Teamwork, Adaptability, Problem-Solving, Analytical Skills, Numeracy and Dexterity.

## CERTIFICATES

- AWS Certified Cloud Practitioner