

# Emmanuel Ugwu

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## EDUCATION

University of Lagos – Lagos, Nigeria

September 2017 – July 2022

BSc, Electrical and Electronics Engineering

- Relevant Courses:** Computer Programming (C++), Object Oriented Programming, Microprocessor, and Microcomputer, Technical Communications, Calculus of several variables, Engineering Algebra

## SKILLS

**Languages & Frameworks:** Java, C++, Python, JavaScript, Typescript, Django, FastAPI, React, Node.js, Express Js, Nest Js, Flask, REST APIs, PyTorch/TensorFlow

**Cloud Computing:** AWS Services (EC2, S3), Google Cloud Platform

**Databases & ORM:** MySQL, PostgreSQL, MongoDB, SQLAlchemy

**DevOps & CI/CD:** Docker, Jenkins, Kubernetes

**Version Control:** Git, GitHub, Bitbucket

**Volunteering:** Volunteering as speaker and helping to host different hackathons and awareness programs for DappsOverApps.an organization that aims to educate and onboard traditional developers, creative builders and tech enthusiasts to web3

## EXPERIENCE

Etranzact Global Limited – Remote

January 2022 – Present

United Kingdom

Backend Engineer (Mid-Level – Full Time)

- Designed and implemented a scalable, high-performance **Node.js** and **Nest Js API** that improved the overall speed and reliability of the company's web applications by 30%.
- Implemented secure authentication (like OAuth, JWT) and encryption protocols (RSA, AES), ensuring the protection of sensitive customer data and reducing the risk of security breaches by 45% using **MongoDB, Kubernetes, Jenkins** with **Bitbucket** for version control.
- Collaborated with cross-functional teams and clients (Finance Institutions) to integrate third-party APIs and platforms, resulting in a seamless user experience and increased customer satisfaction by 25%
- Integrated and contributed to building a payment platform SDK, enabling clients to incorporate multiple payment channels into their websites, improving transaction ease for their customers using **Typescript, Nest Js, MongoDB and GCP**.

Terafac Technologies Pvt. Ltd – Remote

May 2025 - November 2025

Chandigarh, India

Software Engineer

- Applied advanced **AI and machine learning techniques** to improve Terafac’s AI Vision platform performance and model efficiency.
- Developed and optimized models using **Python, FastAPI, REST APIs, NumPy, Pandas, PyTorch, and TensorFlow**.
- Designed and implemented scalable **model architectures** and established evaluation benchmarks for performance validation.
- Collaborated with cross-functional AI teams to integrate **computer vision, generative AI, and robotics** research into production-grade systems.
- Led initiatives in **AI system design, simulation-based learning, and model reasoning**, contributing to measurable improvements in inference quality and deployment speed.

Ductape LLC – Remote

July 2024 – July 2025

Nigeria

Backend Engineer (Mid-Level – Contract)

- Actively contributed to the design and development of Ductape, cutting-edge PaaS framework that simplifies APIs implementation and the creation of reusable components along with the microservices orchestration using **Node.js, Express Js and Typescript** as the server-side framework with **MongoDB** as Database.
- Key components were developed that will enable users to make scalable and reusable features and jobs using the ACTIONS and JOBS functionalities of Ductape
- Designed and implemented secure API and credential management environments that allowed for easier integrations of systems and improved overall security.
- Led efforts to optimize long-running workflows using Ductape's JOBS system, reducing operational complexity and improving performance for clients by 30%.

Attentionverse – Remote

November 2022 – September 2024

Chandigarh, India

Software Engineer

- Developed an AI-powered chatbot that intelligently analyzes the web page a user is on and provides contextual responses, increasing user engagement by 30% using **Python** for the server side and **Brython** on the client side as the scripting language for web browsers.
- Implemented interaction features within the chatbot, allowing users to click buttons and perform actions on a webpage via text commands.
- Worked on photogrammetry and 6D pose estimation for object detection in robotics, improving the system’s accuracy in identifying objects within a point cloud using **Python and C++**.
- Created APIs for real-time communication and integrated WebSocket for updating and fetching the latest data, resulting in a 20% improvement in application response times using **Flask** as the server-side framework, **SQLAlchemy, MySQL with AWS services (EC2, S3 Bucket – for storing files)**.

## PROJECTS

**STAUD Digital Products**

A real estate website that serves as a medium for students to find suitable accommodation in and out of the campus easily, users can make orders on the type of accommodation they want, filter through hostels and apartments, and agents can sign up and post accommodation etc., using **Python, Django, Django Rest Framework, SQLite**.

Source code: [here](#)

**Staff Attendance System**

A Content Management Website made with **Python, Django** and **SQLite** that takes record of employee attendance, as an Admin/Manager you can check how many staffs you have, total present attendances, total absent attendances, total attendances, add/edit staffs, check staffs last, login, create sessions, toggle attendance (i.e., on/off if off employees can mark attendance and vice versa), for an employee, they can sign in and mark their attendance and also check their attendance records, etc.

Source code: [here](#)

**Blog API**

A simple blog API made with **FastAPI**, it includes CRUD functionalities as well as basic authentication such as login, logout, sign up with JWT e.t.c. with **PostgreSQL/MySQL** as its database.

Source code: [here](#)