Andrea Anikwe

Software Engineer

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Education

Computer Science BSc | University of Leicester SEP 2022 - JUN 2025
Second year weighted average of **78.48 (First)**
First year weighted average of **71.91 (First)**

A-level | Townley Grammar School SEP 2020 - JUN 2022
Computer Science - **A*** Economics - **B** Physics - **C**

GCSE | St. Columbas' Catholic Boys' School SEP 2016 - JUN 2020
9 GCSES **A*** - **B** including Mathematics - **A** English language - **B** English literature - **B**

Technical and Soft Skills

Technical: Python Java Javascript HTML & CSS React React Native AWS Problem solving Data structures & Algorithms Github SQL Spring Boot
Soft: Communication skills Teamwork Multilingual (Italian) Time management Organization Dependability

Projects

Distributed Cloud Infrastructure hosting a Collaborative Whiteboard App | AWS, Docker, Redis, Node.js
- Automated provisioning and management of cloud resources using AWS CloudFormation for Infrastructure-as-Code (IaC), ensuring consistent deployments.
- Containerised the whiteboard application components with Docker to streamline deployments and maintain environment consistency across development and production.
- Optimized performance with Amazon ElastiCache (Redis) for distributed caching and Amazon DynamoDB for scalable storage of user-generated content and session data.
- Enhanced availability with auto-scaling EC2 instances and robust failover mechanisms, allowing the application to seamlessly handle varying user loads while maintaining optimal performance.

Chatterbee | React, MongoDB, Express, Node.js, Socket.io
- Developed a full-featured real-time chat application for 40+ users, enabling seamless communication with 20% faster message delivery through React, Express, and Socket.io.
- Utilized React.js (Hooks, Context API) for dynamic front-end UI, Express.js with middleware for secure API routing, and JWT for user authentication. Implemented database management with MongoDB, optimized schema design, and ensured ACID compliance, leading to a 20% improvement in query performance.
- Designed and implemented a RESTful API server to allow the user information, conversations and messages to be stored

Guitar Tuning Algorithm | Python, NumPy, Matplotlib, Wave
- Developed an advanced guitar tuning tool using Python to assist guitarists in achieving precise tuning.
- Applied autocorrelation to calculate the periodicity of the signal and detected the fundamental frequency by finding the peak of the autocorrelation function.
- Visualized both the raw signal and its autocorrelation using Matplotlib, providing a clear graphical representation of the signal and the tuning status.

Leadership and Extra-Curricular Experience

Computer Science Course Rep | University of Leicester OCT 2023 - PRESENT
- Gathered feedback from 150+ computer science students, resulting in a 10% improvement in student satisfaction by addressing curriculum gaps.
- Collaborated with fellow course reps to resolve academic and administrative issues raised by students.
- Distributed important information, updates, and announcements to fellow students.

Computer Science Ambassador | Townley Grammar school SEP 2021 - JUN 2022
- Collaborated with teachers and peers to implement positive changes, resulting in an enhanced subject engagement and improved resources.
- Coordinated and organized academic events and workshops for more than 100 students, promoting a sense of community within the computer science department.

Certificates

Software Engineering Virtual Experience | J.P Morgan JUL 2023 - JUL 2023
- Implemented JPMorgan Chase's open-source library to generate a live graph that displays data feeds clearly and visually appealingly for traders to monitor.
- Set up a local development environment by downloading the necessary files, tools, and dependencies.
- Fixed broken files in the repository to ensure the web application output correctly.