

Onyekachukwu Muoghalu

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EDUCATION

University of Houston

Bachelor of Science in Computer Science

Houston, TX

Aug. 2022 – May 2026

TECHNICAL SKILLS

Languages: Python, C/C++, JavaScript, HTML/CSS, R

Frameworks: React, Node.js, Flask

Developer Tools: Git, LLM, NLP, Google Cloud Platform, VS Code, Visual Studio, PyCharm

Novice: Java, SQL (MySQL)

Libraries: SDL, Nodemailer

EXPERIENCE

Tutor

University of Houston

January 2024 – Present

Houston, TX

- I Provide clear and detailed instruction on calculus, and Data Structures concepts helping students achieve academic success.
- I Tutor 4-5 students weekly, offering tailored support to improve their overall performance from a C to an A.
- I develop customized study plans to improve their overall grade from a C to an A.

PROJECTS

Syllabi-buddy | Python, Flask, HTML, CSS, JavaScript, LLM, NLP

August 2024 – Present

- Built a full-stack web application using Flask backend and integrated Google Calendar API for event scheduling.
- Automated syllabus parsing to extract key dates and assignments, adding them directly to users' calendars.
- Designed a user-friendly interface for uploading syllabi and customizing calendar updates.

O.M.N.I | Python, LLM, Embedding Models, NLP, Open-Ai

November 2024

- Operational Manual Navigation Interface: Designed to assist astronauts doing space exploration during emergencies.
- **Won the grand prize at the Johnson space center Hackathon(JSC Hack).**
- Developed as a Windows application with Python as the back-end and Tiki Ter as the front-end.
- Designed another program to process space shuttle manuals and create embedding vectors for a vector database.
- Built an application leveraging the vector database to handle user queries and retrieve relevant information efficiently.

Personal Web and Game Server Development | Node.js, Nginx,

October 2024

- Collaborated with a friend to build and manage a server infrastructure for hosting a website and game server.
- Set up and configured a secure web server using Nginx, Cloudflare SSL, and Node.js backend.
- Deployed the server on both Windows and Linux environments, customizing Nginx configurations for each platform.

Simulating Clocktimes | C++

September 2024

- Simulated CPU and user process scheduling using a priority queue, differentiating between high-priority and low-priority events.
- Designed event-driven mechanisms to handle time slices, user interactions, and SSD operations in real-time.
- Implemented time-sharing logic to ensure equitable CPU allocation among processes, improving system responsiveness by 20%.
- Utilized C++ to build the simulation, incorporating process management, queues, and event handling.
- Tested and validated the simulation with various input scenarios to ensure accurate and reliable performance.

Fabians Quest | C++

November 2023 – December 2023

- Developed game mechanics including combat, exploration, and inventory systems using C++.
- Designed and implemented character progression, story elements, and interactive gameplay features.
- Utilized object-oriented programming principles to build modular, reusable game components.
- Integrated real-time event handling and user input for seamless gameplay experience.
- Managed project timeline from concept through development, testing, and debugging, delivering a playable game.