MICHAEL OGUNRINDE

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PROFILE

A BSc Computer Science graduate from Sheffield Hallam University with strong academic achievement and proven experience in both individual and team-based projects. Skilled in **machine learning**, **artificial intelligence**, and **full-stack web development**, with additional strengths in **leadership**, **communication**, and **problem solving**. Passionate about applying technical expertise to real-world challenges and eager to contribute to innovative projects within a dynamic technology-focused organisation. **Currently seeking opportunities in software engineering, data science, machine learning engineering, and AI-driven development.**

Education

Sheffield Hallam University **2022-2025**
Bachelor of Computer Science
First Class Honours 1st

Barnsley Sixth Form (A levels)
Information Technology - A
Computer Science – B
Math - C

Skills

Technical Skills

- C#
- C++
- JavaScript
- React
- MySQL
- SQLite
- phpMyAdmin
- Node
- PHP
- CSS
- HTML
- Express
- Web Development
- Java
- Windows Forms
- Python

Soft Skills

- Problem Solving
- Critical Thinking
- Leadership
- Adaptability
- Time management
- Communication
- Teamwork and Collaboration
- Team Management

Portfolio Final Project

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Kool Kaftan
Co-leadership/ Full stack development ***Feb 2023 – Apr 2023***

- **Led a team of 5** members in the successful development of an **innovative Inventory Management System (IMS)** for **Kool Kaftan** to optimise warehouse storage operations.
- **Revamped stock management** by transitioning from an **Excel-based approach** to an **efficient web-based solution** with an **intuitive interface**, resulting in a **100% improvement in stock tracking efficiency.**
- Designed and developed a **user-friendly web interface**, enabling faster stock operations (**adding, removing, replacing, and tracking stocks executed 100% faster**).
- **Deployed the IMS online**, ensuring **mobile and multi-device accessibility** for all stakeholders.
- Introduced a **systematic requirements-gathering process**, ensuring clarity and alignment with project objectives.
- **Achieved the highest grade** among all teams in the **software project module**, demonstrating **exceptional teamwork** and **project management skills**.

Product Rating System with Sentiment Analysis (PRSSA)
Developer ***Feb 2023 – Apr 2023***

- **Developed a web-based Product Rating System** that utilised sentiment analysis to assess user comments and star ratings, assigning **sentiment-based product scores**.
- Designed an **interactive platform** where registered users could comment on and rate products, enhancing **user engagement**.
- Managed **a database of weighted positive and negative keywords**, refining **sentiment analysis accuracy**.
- Implemented an **intelligent recommendation engine**, suggesting products based on user preferences.
- Enabled **administrative product management** (addition, updates, and **category-based filtering**) for usability.
- Guided the project's **sentiment analysis component from concept to execution.**

Tuition Fee Payment Planning Software (TFPP)
Sole Developer ***Sep 2022***

- **Independently conceptualised and developed a user-friendly software tool** designed to assist individuals in planning the payment of their tuition fees.
- Engineered an algorithm that allows users to **input savings, monthly income, and expenses**, enabling the software to calculate the **optimal tuition payment plan** while balancing essential costs.

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- Program performs a **rigorous financial analysis** to determine payment feasibility and provides **practical monthly plans** or **clear feedback** if the user's situation is not viable.
- The software **empowers users to make informed financial decisions**, ensuring a smoother and more manageable payment journey.
- From **ideation to execution**, developed the entire software as a **solo project**, demonstrating a strong **entrepreneurial** and **problem-solving skills**.

Ai Tutor System for Personalised learning and Adaptive Feedback using multi-agent system
Sole Developer ***Feb 2025 – Apr 2025***

- Designed and implemented an education platform to support Year 6 students in solving mathematics problems.
- Integrated a fine-tuned **Deep Knowledge Tracing Plus (DKT+)** model for student performance prediction and mastery tracking.
- Built a **multi-agent architecture** comprising question generation, hint generation, validation, and adaptive feedback agents.
- Developed an **adaptive prediction strategy** that adjusts to detected learning styles (visual, sequential, practice-oriented).
- Implemented personalised content generation with scaffolded hints, fallback mechanisms, and curriculum-aligned question validation.
- Deployed using **FastAPI** with a **PostgreSQL** backend, handling user authentication, progress tracking, and real-time feedback.
- Created synthetic datasets and integrated gamification (points, streaks, badges) to evaluate model predictions and maintain user engagement.
- Demonstrated skills in **AI/ML (PyTorch, DKT+), LLM integration (Mistral, DeepSeek-R1), backend development (FastAPI, SQLAlchemy), database design, and education technology research.**

University Positions

Student Assistance

- Provided **academic support** and **mentoring** to fellow students, assisting with course-related tasks and problem-solving.
- **Collaborated with lecturers and professors** to ensure students gained a deeper understanding of coursework.
- Demonstrated strong **time management** and **planning skills** while balancing academic responsibilities with assisting peers.
- **Proactively reviewed module materials** in preparation for class sessions, optimizing my ability to help.
- **Honed mentoring and communication skills** by providing guidance and support, promoting peer comprehension.

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Student Representative

- **Conducted surveys** and **interviews** with fellow students to gather feedback on current academic modules and semester experiences.
- Analysed collected data to identify **trends, concerns, and opportunities for improvement.**
- **Presented findings** to **course leaders** and **faculty**, advocating for positive changes and enhancements.
- **Collaborated with faculty and representatives** to address student concerns and contribute to **the continuous improvement of the academic experience**.

Careers

Google DeepMind Research Ready Program (2 month)

Hosted by University of Cambridge ***July 2024 – Sep 2024***

- **Collaborated with the Provoke Lab at the University of Cambridge** to develop a deep learning model using **PyTorch** for predicting obstacle-aware trajectories in **3D environments.**
- Expanded a **2D trajectory deconfliction model** from a **master's dissertation** to incorporate obstacle avoidance and extend its functionality to 3D.
- Utilised **Convolutional Neural Networks (CNN)** and **Multi-layer Perceptrons (MLP)** for encoding/decoding spatial data and processing obstacle information.
- Created a **custom dataset class** and **data loader** for handling trajectory and obstacle data.
- Developed a custom training loop with the **Adam optimiser** and **MSE loss function**, implementing **logging, checkpointing, and early stopping** for optimised training performance.
- Designed a **custom loss function** addressing collision avoidance, obstacle avoidance, position accuracy, smoothness, and velocity consistency.
- Evaluated model performance using **Mean Squared Error (MSE)** and visualised results through **interactive 3D plots** using **ipyvolume** and matplotlib **within Jupyter Notebooks.**
- Presented the project to postgraduate students, and professors at the **University of Cambridge's Computer Department** and was also invited to the **Google DeepMind office** to demonstrate the outcomes and participate in a program celebration.
- My experience and work is **featured in an article by the University of Cambridge** Computer Department (**"This opportunity is great for people like me"**).