

# CHIMZURUOKE OKAFOR

## Software Engineer (AI/ML)

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### SUMMARY

Passionate Research Engineer with over 4 years of experience, and a strong background in computer science, mathematics, and machine learning, I am proficient in various programming languages and have a passion for AI research and development. My problem-solving skills have led to a track record of developing highly scalable and successful AI-driven applications in LLM and Computer Vision. I bring to a team a huge leadership ability to own product development, drive innovation, and excel in dynamic, technology-forward environments.

### PROFESSIONAL EXPERIENCE

#### Lead AI Fullstack Engineer at Lightwork

##### LightWork AI

📅 01/2024 - Present    📍 London, UK

- Designed and built the backend microservices for Lightwork's property management and marketplace platform
- Developed and structurally integrated a Voice AI Assistant Felicity for Lightwork AI solutions alongside implementing a Hybrid RAG system.
- Improved the Voice AI Call Assistant to achieve a remarkably low latency of approximately 600ms by leveraging VOIP
- Managed sprint planning and task assignments for the engineering team, ensuring timely delivery of features and bug fixes.
- Lightwork got been shortlisted for the Revolutionising the Consumer Journey award at the UK PropTech Awards 2024 and raise over £20M in fundings

#### Research Engineer (NLP, LLM)

##### University of Surrey, IT Services

📅 05/2023 - 09/2023    📍 Guildford, UK

- Developed an AI Chatbot to improve the university's student communication system which involved training, fine-tuning and research on LLM.
- Optimized vector embeddings in LLMs by employing a novel machine learning technique, improving the chatbot's context awareness and accuracy, which reduced cloud processing requirements and server costs by 40%.
- Utilized DeepSpeed and ZeRo to accelerating model training and inference by 30%.
- Simplified complex AI concepts for non-tech staff and team members, enhancing team capabilities and collaboration.
- Contributed to a 40% reduction in student helpline queries, significantly advancing digital engagement across the campus.

#### Software Engineer (AI/ML)

##### Greach

📅 04/2022 - 07/2023    📍 Chicago, US

- Co-launched a ride-hailing application with over 3K downloads on the App Store and Play Store, utilizing React for frontend and Python, Node.js for backend.
- Utilized AWS resources like EC2, ECS, SNS, SQS, Serverless and API Gateway for scalable, and containerized event-driven backend microservice deployment.
- Engineered an advanced matching algorithm for ride-hailing, combining machine learning and data structures expertise, achieving 90% accuracy in driver-rider pairings.
- Maintained a high-quality codebase, developed essential tests for algorithm efficiency, and actively participated in code reviews to enhance system performance.
- Implemented configuration management tools using custom shell scripts, reducing server setup time by 25% and increasing system uptime by 60% for performance testing.

### EDUCATION

#### Master of Science, Artificial Intelligence

##### University of Surrey

📅 02/2023 - 02/2024    📍 Guildford, UK

- Completed core Modules such as Introduction to Transformers (NLP), Machine Learning Fundamentals, Ethics of AI, AI and AI Programming, Multimodal and Human-AI Teaming.

#### Bachelor of Engineering, Electrical and Electronics Engineering

##### Federal University of Technology Owerri

📅 09/2014 - 11/2019    📍 Owerri, NG

- Completed core Modules such as Engineering Mathematics, Computer Networking, Statistics Modelling, Computer Programming, Information Theory and System Design

### KEY ACHIEVEMENTS

#### Spearheaded a popular 2.5K star GitHub Machine Learning project

The project has amassed over 2.5k stars on GitHub, and it is in the top 10 most popular ML projects on GitHub in 2022.

#### Major Open source Contributor to Popular ML Frameworks

Open source contributor to Tensorflow, Pytorch & Ivy

#### Innovative Research in Self-Supervised Learning for 3D Imagery

Pioneered a model in SSL for 3D imagery, showcasing its efficacy with a paper pending publication at CVSSP, ICCV, and significantly advancing the field.

#### Developed a Successful Commercial AI SaaS Application for Proposal Generation

This SaaS application has generated ~£2K in revenue and attracted over 100 active user subscriptions

### SKILLS

#### Tools

Java    C++/C#    Python    DBMS    API  
Data Structures/Algorithms    Typescript    SDLC

#### Machine Learning

Numpy/Pandas    TensorFlow    Pytorch  
Scikit Learn    Keras    MLOps    Data Analysis  
DeepSpeed    ZeRo    Multimodal (Text, Audio)  
Data Engineering    NLP    Generative AI  
Large Language Model    RAG    Voice Assistant

#### DevOps/Cloud

Terraform    AWS    Docker    Message Queue  
Kubernetes    CI/CD    Microservice    Pub/Sub  
Parallelism    Distributed Computing

### STRENGTHS

#### Problem Solving Skills

Huge knowledge base and attention to detail.

#### Communication and Collaborative Skills

Excel at clarifying and presenting complex technological concepts, which drives collaborative innovation.