

OLOGUN SODIQ BABATUNDE

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Mailing Address

240, Jianhse North Road, Sichuan Province,
Chengdu, China.

OBJECTIVE

To contribute to advancements in computing and software technologies in both industry and research by applying strong technical expertise and forward-thinking, innovative approaches to develop impactful and meaningful solutions.

EDUCATION

University of Electronic Science and Technology of China <i>Master of Engineering - Software Engineering</i>	2024 - 2026
Federal University of Technology Minna <i>Bachelor of Technology - Computer Science and Physics</i>	2016 - 2021
The Polytechnic, Ibadan <i>National Diploma - Electrical and Electronics Engineering</i>	2011 - 2013
Vetland Grammar School <i>High School Leaving Certificate</i>	2005 - 2010
Wamon Taofeek Nursery and Primary School <i>First School Leaving Certificate</i>	2000 - 2005

RESEARCH INTEREST

My research interests span the intersection of artificial intelligence and software engineering, with particular focus on AI-driven software development and automated testing methodologies. I am actively exploring computational intelligence approaches for large-scale system design and deployment, leveraging deep learning techniques to advance software engineering practices and improve system reliability.

- AI for Software Engineering.
- Software Development and Automated Testing.
- Computational Intelligence.
- Large-scale System Design and Deployment.
- Deep Learning.
- Natural Language Processing for Code Understanding.

PUBLICATIONS

Conference Paper Accepted 2025

Ologun, S Babatunde, Bo Chen, Rajab Ssemwogerere, Akpanika R. Ukot, Ryvel T. Stamber, and Saio A. Marrah “GraphCodeBERT-GAT: Hierarchical Graph Attention Networks for Explainable Neural Code Retrieval,” *Proceedings of 2025 22nd International Computer Conference on Wavelet Active Media Technology and Information Processing (ICCWAMTIP)*, Paper ID: 34. Awaiting DOI

Akpanika, R. Ukot, Qingxian Wang, Weidong Wang, **Ologun S. Babatunde**, and Favour Ekong. “A Lightweight Dual-Encoder Framework for Personalized AAC Pictogram Retrieval,” *Proceedings of 2025 22nd International Computer Conference on Wavelet Active Media Technology and Information Processing (ICCWAMTIP)*, Paper ID:82. Awaiting DOI

Semwogerere, R., Zhen, Q., Alzahrani, A.A.E., Almathani, M.A., Missaoui, M.E.A., Badjie, A., and **Ologun S Babatunde.**, “Enhanced Region-Aware Fusion Network: A Multi-Modal Deep Learning Framework for 3D Brain Tumor Segmentation in MRI Volumes,” *Proceedings of 2025 22nd International Computer Conference on Wavelet Active Media Technology and Information Processing (ICCWAMTIP)*. Paper ID:63. Awaiting DOI

Journal Publications Accepted 2026

Marrah, S.A., Jiahao, W., Bakarr, K.A., Kamara, G.D., **Ologun S Babatunde.**, Marrah, M., Stamber, R.T., and Saidu, S.E., “Federated Deep Learning for Privacy-Preserving Disease Detection in IoT-Enabled Healthcare Systems,” *Frontiers in Computer Science, section Human-Media Interaction*, submitted 2024, Manuscript ID: 1725597. [Paper Link](#)

Journal Publications Under Review

Stamber, R.T., Wang, Q.X., Wang, W., Chen, B., and **Ologun S. Babatunde**, “Towards Intelligent Question-Answering Systems for Discrete Mathematics: Evaluating the Efficacy of an Agentic RAG Approach,” *Computers & Education*, submitted 2025, Manuscript ID: COMPEDU-D-25-04943.

INDEPENDENT RESEARCH & APPLIED PROJECTS

- Explainable Source Code Representation and Retrieval with Graph Neural Network.
- Automated Industrial Park Detection Using Deep Learning Models.
- Delay Encryption–Based Security Protocols for Blockchain Networks.
- Protein Interaction Prediction Using the STRING Dataset.
- 30-Day Weather Forecasting with Markov Chain Monte Carlo Simulation.
- Machine Vision-Based IC Defect Detection Using HALCON and Python.
- Interpretable Event Argument Extraction: A Knowledge Graph-Augmented Deep Learning Model.

SOFTWARE DEVELOPMENT PROJECTS

- Friendra – Self-hosted Social Networking Platform (Ruby on Rails, React.js, PostgreSQL) <https://www.friendra.com>
- Restaurant Ordering System (C++ QT5, Crow, MongoDB).
Link: <https://github.com/xohdik/Restaurant-Ordering-system>
- E-health Appointment Management System (Node.js, MongoDB, React.js).
Link: <https://github.com/xohdik/E-Health-Management-System>
- Sterilization Management System (Spring Boot Java, Vue.js).
Link: <https://github.com/xohdik/Sterilization-Project-Management>
- Snake Hunt Game (Python, Pygame).

SCHOLARSHIP, AWARD AND CERTIFICATE

University of Electronic Science and Technology of China	2024 - 2026
<ul style="list-style-type: none">• <i>Full University Scholarship (Master Degree)</i>• <i>Academic Excellent Scholarship Award</i>	2025
Google Cloud - Certification of Recognition	
<ul style="list-style-type: none">• <i>Cloud Technical Series AI Deep Dive</i>	2025
Kaggle <i>Python Course Certificate</i>	2025
Analytics Vidhya <i>Understanding the working of Neural Networks</i>	2025
Chengdu University of Technology	
Emerging Technology Tools (Research Seminar)	2024
<ul style="list-style-type: none">• <i>Artificial Intelligence (AI), 3D-Printing, Sensors and System</i>• <i>Ping Pong Competition Award</i>	
TEFL: Teach English as a Foreign Language	2024
<ul style="list-style-type: none">• <i>TEFL 50-Hour English Course</i>	

TECHNICAL SKILLS

- **Machine Learning Frameworks:** PyTorch, TensorFlow, PyTorch Geometric.
- **Programming:** Ruby, Python (Advanced), C++, Java, JavaScript, MATLAB.
- **Computational Intelligence & Algorithms:** Graph Neural Networks, KG_Graphs.
- **Development Tools:** Git/GitHub, Jupyter Notebooks, Docker, Linux/Unix systems.
- **Data Science:** NumPy, Pandas, Scikit-learn, Matplotlib, statistical analysis.
- **Project Management:** Agile methodologies, Sprint and research project coordination.

RESEARCH EXPERIENCE

University of Electronic Science and Technology of China

Sept 2024 till date

Graduate Software Engineer

- Research Graph Neural Networks (GNNs) for deep learning applications, implementing attention mechanisms and hierarchical architectures for neural code retrieval systems.
- Large-scale software analysis leveraging machine learning models for code quality assessment, technical debt identification, and security vulnerability detection.
- Develop full-stack applications using React.js, Node.js, microservices architecture with RESTful APIs and distributed database systems.

Chengdu University of Technology

2023 - 2024

Research Assistant (Low Carbon Smart Energy Group)

- Research on Clean Energy Production.
- Energy Optimization models.
- Renewable Energy trends.
- New Energy Technologies.

Federal University of Technology Minna

2016 -2021

Lab assistant

- Assisted in computer simulation projects using MATLAB and Python for physics modeling, including wave propagation analysis and electromagnetic field calculations.
- Designed and tested embedded systems projects combining microcontrollers with sensor networks for integrated experiments.

TEACHING EXPERIENCE

University of Electronic Science and Technology of China

Sept 2024 till date

Teaching Assistant, Software Engineering Department

Courses:

- i. Fundamental to Network Computing
- ii. Software Architecture
- iii. Cross Culture difference and Communication

Bright Star School

May 2021 to Aug 2022

Location Lagos, Nigeria

*Physics and Computer Science **Teacher***

- Developed comprehensive lesson plans, laboratory experiments, and programming assignments while maintaining student assessment records and academic progress tracking.

PROFESSIONAL TRAINING

Google Cloud

Advanced training on AI/ML services, model deployment, and cloud-based machine learning workflows using Google Cloud Platform

- Covered AI/ML model development and deployment on Google Cloud Platform. Hands-on experience with Vertex AI, AutoML, and BigQuery ML.
- Cloud architecture for scalable machine learning solutions.

SKF Group

Industrial Bearing Technology and Maintenance

Training on bearing systems, lubrication, predictive maintenance, and industrial equipment reliability

- **Learned predictive maintenance techniques and condition monitoring systems**

Data Engineering

Training on pension data analysis, RSA management systems, and regulatory compliance data processing.

- Managed database operations and transfer window processes for Retirement Savings Account (RSA) portfolio management.

WORK EXPERIENCE

FRIENDRA (Self-hosted Social Networking Platform) **Server Administrator/ CTO**

CTO

- Administered Ubuntu server infrastructure on Contabo VPS, managing system configurations, security updates, and performance optimization
- Configured and maintained Nginx web server, implementing SSL certificates and Cloudflare security integration
- Managed PostgreSQL database operations including backups, performance tuning, and data integrity monitoring
- Implemented DevOps practices for application deployment, server monitoring, and automated maintenance procedures
- Ensured platform availability and security through proactive system monitoring and incident response protocols

FIDELITY PENSION MANAGERS LIMITED **OPERATIONS DEPARTMENT (DATA ANALYST – FULL TIME)**

2022 – 2023

- Managed database operations and transfer window processes for Retirement Savings Account (RSA) portfolio management
- Executed RSA onboarding and transfer procedures, ensuring compliance with pension regulatory requirements

- Performed specialized data tasks including Transaction History (Th) uploads, validation processes, and data integrity verification
- Conducted RSA profiling, account confirmation, and PIN generation within pension management database systems
- Generated comprehensive account statements and financial reports for pension contributors and regulatory bodies

FIDELITY PENSION MANAGERS LIMITED
OPERATIONS DEPARTMENT (DATA ANALYST – INTERN)

2019

- Assisted with database management and RSA processing procedures.
- Supported senior analysts in data validation and account management tasks.
- Developed Python scripts for automated data cleaning and transformation of pension member records
- SQL query optimization with stored procedures.

TEKNITEED NIGERIA LIMITED

2015 – 2016

TECHNICAL SUPPORT ASSISTANT (*Promoted from Trainee Engineer*)

- Conducted thermographic (infrared) surveys to detect electrical system faults for Coca Cola Bottling Company Nigeria
- Prepared technical reports, performance summaries, and client documentation based on field data and engineering analysis
- Assisted senior engineers in data collection, analysis, and troubleshooting during project implementation

VITAFOAM NIGERIA PLC
ENGINEER (INTERN)

2014

- Assisted in technical design and development of manufacturing processes
- Performed preventive and corrective maintenance on factory equipment and machinery
- Supported machine installation, calibration, and troubleshooting operations

LAGOS STATE SECRETARIAT
Ministry of Works and Infrastructure

2012

Student Industrial Work Experience Scheme (SIWES) Intern

COMMUNITY SERVICE

National Youth Service Corps (NYSC)

Corp Member, Lagos Nigeria

2022 – 2023

- Participated in Road Safety Community Development Service (CDS), conducting traffic awareness campaigns and accident prevention programs in Lagos communities.

REFERENCES

Available Upon request.