Moshood Fakorede

Baton Rouge, LA | (225) 477-6527 | mfakor1@lsu.edu | linkedin.com/in/Fakorede | github.com/Fakorede

RESEARCH SUMMARY

Computer Science PhD student at LSU (GPA 4.0) specializing in agentic AI, LLM evaluation, and static program analysis. Built benchmarks and experimental pipelines to evaluate and improve developer tools, with work published at AST 2026 and manuscripts under review at EMNLP and OOPSLA, advancing the reliability and correctness of AI-powered developer experiences.

EDUCATION

Louisiana State University (LSU)   **Dec 2028**
Ph.D. Computer Science   *GPA: 4.0*
Relevant Coursework: Machine Learning, Foundational AI, Cloud Computing, Big Data, Programming Lang. Structures
Federal University of Abeokuta   **May 2019**
B.Sc. Computer Science   *GPA: 3.5*
Relevant Coursework: Software Engineering, Object-Oriented Programming, Database Systems, D.S. & Algorithm

SKILLS

Languages & Frameworks: Python, FastAPI, Java, Spring Boot, JavaScript, Node.js
ML & AI: PyTorch, HuggingFace, LangChain, LangGraph, RAG, Agentic AI, LLM Evaluation & Benchmarking, Dataset Construction
Cloud, Data & Tools: AWS, GCP, Docker, MySQL, PostgreSQL, PineCone, Spark, Hadoop, Git, Linux, SLURM/HPC
Research & Analysis: Static Analysis (Soot, FlowDroid), Formal Verification (OpenJML, KeY), Android

WORK EXPERIENCE

Graduate Research Assistant   **Jan 2024 – Present**
Department of Computer Science & Engineering LSU, Baton Rouge, LA
- Designing SpecForge, an agentic LLM system integrating AI Agents with formal verification workflows to automate specification synthesis and bug detection in Java and Kotlin programs, targeting improved coverage over baseline static analysis (in progress).
- Designed and built MobileDev-Bench, a benchmark of 384 real-world issue-resolution tasks across 18 production mobile apps (Android, React Native, Flutter), with a compilation-aware automated evaluation pipeline; evaluated four frontier LLMs (GPT, Claude, Gemini, Qwen) revealing systematic failure modes in fault localization across multi-file, multi-artifact changes (arXiv:2603.24946, under review).
- Contributed to empirical research on bug characterization in quantum simulator software as second author; performed systematic annotation and classification of bug reports from open-source repositories, supporting dataset construction for the study (arXiv:2603.22789, under review).
- Performed static code analysis of 50+ Android applications using FlowDroid and Soot frameworks to detect platform guideline violations, reducing manual inspection effort and contributing findings to peer-reviewed academic research (arXiv:2503.04003, AST 2026).

Graduate Teaching Assistant   **Jan 2024 – Present**
Department of Computer Science & Engineering LSU, Baton Rouge, LA
- Supported instruction for Object-Oriented Design and Programming Languages courses; held office hours, graded assignments, and provided feedback to 90+ students per semester.

Application Developer   **Aug 2020 – Aug 2022**
ARM Pensions PFA Ltd, Remote
- Designed and shipped 10+ production-ready web applications leveraging Laravel, Vue.js, and MySQL to digitize enterprise workflows, directly supporting 500+ internal users and reducing manual processing overhead by 40%.
- Orchestrated vulnerability assessments and dependency remediation across 5+ Laravel applications to eliminate critical security risks, resolving 20+ CVEs and achieving 100% OWASP Top 10 compliance across production systems.
- Built and integrated a Corporate Internet Banking RESTful API into core accounting microservices, automating 95% of payment instructions and eliminating manual processing workflows, saving 20+ hours weekly.
- Built and deployed an RPA automation pipeline using IMAP protocol to streamline IT service desk workflows, achieving a 60% reduction in ticket response time and raising SLA compliance to 92%.

PROJECTS

MobileDev-Bench | *Python, GitHub API, HuggingFace, Android, React Native, Flutter*
- Built a benchmark of 384 real-world issue-resolution tasks across 18 production mobile apps (Android Native, React Native, Flutter), with automated compilation-aware evaluation; revealed that frontier LLMs including GPT, Claude, and Gemini achieve only 3.39–5.21% resolution rates, exposing a critical gap in mobile software engineering capability.

AI Documentation Assistant (RAG) | *Python, LangChain, LangGraph, LangSmith, Tavily, Pinecone*
- Built a RAG-powered documentation assistant with automated web crawling and semantic vector search to eliminate manual documentation lookup, enabling context-aware Q&A with conversational memory and full LangSmith observability across the retrieval pipeline.

Skin Cancer Classification | *Python, PyTorch, Streamlit*
- Implemented and benchmarked ResNet50, DenseNet121, EfficientNet-B2, and a custom TinyVGG on the HAM10000 dataset using transfer learning, class-weighted loss, and data augmentation, achieving 87.47% classification accuracy with EfficientNet-B2 exceeding average dermatologist accuracy (77.6%).

Spring Boot Microservices | *Java, Spring Boot, MySql, Eureka, Feign Client, Zipkin, Docker, GKE*
- Designed a production-ready microservices architecture with service discovery, distributed tracing, and circuit breaker fault-tolerance patterns to simulate real-world cloud-native deployments.

Olist Big Data Analysis | *Python, Hadoop HDFS, Apache Spark, Spark SQL, GCP*
- Engineered a distributed analytics pipeline on GCP Dataproc processing 100K+ e-commerce records to uncover customer purchasing patterns, seller performance metrics, and regional market trends, reducing query execution time by 70% over baseline single-node processing.

PUBLICATIONS

- MobileDev-Bench: A Comprehensive Benchmark for Evaluating Large Language Models on Mobile Application Development (Under Review).
- Understanding and Detecting Platform-Specific Violations in Android Auto Apps (Accepted at AST 2026).
- Understanding Bugs in Quantum Simulators: An Empirical Study (Under Review).

PROFESSIONAL SERVICE

- Artifact Evaluation Program Committee, The Web Conference (WWW) 2026
- Artifact Evaluation Program Committee, MobiSys2026
- Artifact Evaluation Program Committee, PETS 2026

HONORS & AWARDS

- Excellence in Computer Science Research - AIR Program (AGSA, LSU), 2026
- Phi Kappa Phi (Top 10% Graduate Students, LSU)