Moshood A. Fakorede

mfakor1@lsu.edu +1 (225) 477-6527 Baton Rouge, LA 70820 fakorede.github.io linkedin.com/in/fakorede

SUMMARY

PhD student in Computer Science working at the intersection of AI and software engineering, building neurosymbolic tools that pair large language models with static program analysis and formal verification to make software more reliable.

EDUCATION

Ph.D. Computer Science — Baton Rouge, Louisiana
Louisiana State University — Jan 2024 – Present

B.Sc. Computer Science — Abeokuta, Nigeria
Federal University of Agriculture Abeokuta — Jan 2015 – May 2019

RESEARCH INTERESTS

ML/AI for Software Engineering | NeuroSymbolic Systems | Automated Reasoning | Program Analysis

RESEARCH EXPERIENCE

Research Assistant, Programming Systems Group — Baton Rouge, Louisiana
Louisiana State University, Advised by Dr. Umar Farooq — Jan 2024 – Present

- Built AutoComply, a static program analysis tool using a novel Car-Control Flow Graph to detect Android Auto compliance violations; published at AST 2026.
- Constructed MobileDev-Bench, a 407-task benchmark evaluating LLMs on real-world mobile issue resolution; frontier models resolve under 6% of tasks pass@1.
- Developed LintBench, a 113-check benchmark evaluating LLMs on generating Android Lint checks from natural language; raised pass rate from 64.6% to 85.0% via retrieval and execution-guided repair; submitted to ICSE 2027.
- Designed VeriLens, a neurosymbolic study pairing LLM-synthesized specifications with the SnaKt/Viper/Z3 formal verifier, disentangling model, specification, and automated-reasoning-infrastructure failures.
- Mentored two undergraduate students on Kotlin and Java static analysis research.

PUBLICATIONS & PRE-PRINTS

[1] **Fakorede, M. A**., & Farooq, U. (2026). Understanding and Detecting Platform-Specific Violations in Android Auto Apps. *Proceedings of the 7th ACM/IEEE International Conference on Automation of Software Test (AST '26)*, 123-133. ACM. DOI: 10.1145/3793654.3793745

[2] **Fakorede, M. A.,** Upadhyay, K., Siddique, A. B., & Farooq, U. (2026). MobileDev-Bench: A Benchmark for Issue Resolution in Mobile Application Development. *arXiv:2603.24946*. DOI: 10.48550/arXiv.2603.24946. *Submitted to NEURIPS 2026*

[3] **Fakorede, M. A.,** Siddique, A. B., Sridharan, M., & Farooq, U. (2026). How Far Can LLMs Go in Generating Android Lint Checks from Natural Language? *Submitted to ICSE 2027*

SKILLS

Programming Languages: Python, Java, Kotlin, JavaScript, **Machine Learning:** PyTorch, Scikit-Learn, LangChain, Hugging Face, **Program Analysis:** Soot, FlowDroid, Kotlin PSI, Android Lint, **Automated Reasoning:** Z3, Lean, Viper, **Others:** Linux, Git, Docker, AWS, MySQL, Spark, Hadoop

REFERENCES

Dr. Umar Farooq, *Assistant Professor of Computer Science,* Louisiana State University
ufarooq@lsu.edu

Dr. Gerald Baumgartner, *Associate Professor of Computer Science,* Louisiana State University
gb@lsu.edu