Ahmad D. Suleiman

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EXECUTIVE SUMMARY

- Computing education researcher focused on project-based learning, with 7+ peer-reviewed publications and projects adopted at over 7 U.S. universities.
- Industry-level software engineering experience developing enterprise systems.
- **Research Interests**: PjBL in Computing Education, Software Engineering, Applied Large Language Models, High Performance Computing.

EDUCATION

Rochester Institute of Technology (RIT) — Rochester, NY, USA
Ph.D. in Computing and Information Science — *Jan 2022 – December 2026 (Expected)*

Clarkson University — Potsdam, NY, USA
M.S. in Electrical and Computer Engineering (Software Engineering Major) — *January 2022 – May 2024*
- CGPA: 4.0/4.0

Federal University of Technology, Minna (FUT Minna) — Minna, Nigeria
B.Tech. in Information Technology — *October 2014 – November 2019*
- First Class Honors; CGPA: 4.58/5.0

RESEARCH EXPERIENCE

Research Assistant — Jan. 2022 – Present
Rochester Institute of Technology & Clarkson University — *Rochester, NY*
- Contributed to multiple NSF-funded projects (IUSE, SaTC) that designed and deployed **14+** PjBL projects in software engineering, AI, and cybersecurity. These modules have been adopted at **7+** U.S. universities, reaching thousands of students nationwide.
- Designed and implemented fine-tuned and RAG-based LLM assistants for automated teaching assistants, project scaffolding, and grading rubrics.
- Research on project-based learning in computing education, focusing on project design, student support, faculty adoption, and assessment methods, resulting in multiple peer-reviewed publications.
- Configured and maintained a 20-node Red Hat OpenHPC cluster (640 cores) with Slurm, OpenMPI, and Prometheus/Grafana monitoring, supporting multiple researchers in large-scale simulations.

INDUSTRY EXPERIENCE

Software Engineer — Apr. 2021 – Dec. 2021
Legalfit LLC — *Overland Park, KS (Remote)*
- Contributed to the development of a new CMS platform for law firms, ensuring compliance with Google Web Vitals metrics.
- Designed responsive web front-end pages from Adobe XD designs.

Software Engineer — Jun. 2020 – Apr. 2021
TTF Ltd. — *Lagos, Nigeria (Remote)*
- Built a COVID-19 registration portal for the Lagos State Safety Commission, scaled to 200k+ daily check-ins on AWS EC2/S3.
- Developed an MVP Human Resource Management System (Java, Spring, MySQL) adopted by Sterling Bank.
- Designed and deployed an online ordering system, *Nuli-Lounge*, for a Nigerian restaurant.

Software Engineer Intern — Jul. 2018 – May 2020
DiceBox Innovation Hub — *Kano, Nigeria*
- Developed a biometric attendance tracking system for academic institutions.
- Built an Android-based POS and inventory system for small businesses.

IT Intern — Apr. 2018 – Jul. 2018
IHS Towers — *Kano State, Nigeria*

- Provided IT support services across multiple departments.
- Developed an Android application to streamline telecommunication site survey recordings.

Teaching and Mentoring

- **Teaching Assistant, NSF Project-Based Learning Initiatives** (2022–present) – Supported courses at multiple institutions by providing instructional assistance for NSF-funded project-based learning modules in software engineering, AI, and cybersecurity. Responsibilities included helping students implement projects, holding lab sessions, and supporting faculty in integrating the modules.

- **Teaching Assistant, NSF CyberTraining on HPC** (2024) – Assisted in delivering an NSF CyberTraining workshop on high-performance computing.

- **Mentor, Michael Taiwo (MT) Graduate Scholarships** (2023–Present) – Mentored undergraduate and early-career scholars on graduate school applications, research opportunities, and career pathways in computing and engineering. Provided guidance on statement writing, research planning, and graduate funding opportunities.

- **Course Instructor, Java Programming** – Di-Hub, Kano, Nigeria (2018–2020). Designed and delivered Java programming courses for undergraduate-level learners. Supervised hands-on projects, including biometric attendance systems and Android-based POS applications.

- **Mentor, Andela Learning Community (ALC)** (2019) – Guided early-career software engineers in programming, project-based learning, and professional development. Conducted group sessions, reviewed code, and provided one-on-one mentorship.

- **Mentor, Google Developer Student Club (GDSC)** (2019) – Mentored undergraduate students with a focus on Android development. Supervised mobile app projects, introduced students to open-source collaboration, and provided career guidance in software engineering.

Publications

Peer-reviewed journal papers are prefixed with J, peer-reviewed conference papers with C, and preprints with P.

⟨P2⟩ **Suleiman, A. D.**, Hou, D., & Raida, M. N. "LLM-Generated Design Problems for Higher-Order Thinking Assessment in Project-Based Learning." Submitted to *ACM SIGCSE TS*, 2026. (Under Review)

⟨J1⟩ **Suleiman, A. D.**, Hou, D., Liu, Y., DeWaters, J., Shepherd, D. C., & De Souza, J. G. "Systematic Literature Review on Project-Based Learning in Computing Education." *ACM Transactions on Computing Education (TOCE)*, 2025. DOI ↗

⟨C5⟩ **Suleiman, A. D.**, Tang, Y., & Hou, D. "Factors Impacting Faculty Adoption of Project-Based Learning in Computing Education: a Survey." In *IEEE Frontiers in Education Conference (FIE)*, 2025. arXiv ↗

⟨P1⟩ Chen, Z., Nava-Camal, V., **Suleiman, A.**, Tang, Y., Hou, D., & Shang, W. "An Empirical Study on the Capability of LLMs in Decomposing Bug Reports." *arXiv preprint*, 2025. arXiv ↗

⟨C4⟩ **Suleiman, A. D.**, DeWaters, J., Hou, D., Liu, Y., & Shepherd, D. "An Exploratory Comparative Study on the Impacts of Technical Support on Student Successes in Computing Project-Based Learning." In *IEEE Frontiers in Education Conference (FIE)*, 2024. DOI ↗

⟨C3⟩ **Suleiman, A. D.**, Shepherd, D., DeWaters, J., Liu, Y., & Hou, D. "Providing Technical Support to Sustain Student Motivation and Engagement in Software Engineering Project-Based Learning." In *IEEE Frontiers in Education Conference (FIE)*, 2024. DOI ↗

⟨C2⟩ **Suleiman, A. D.**, Hou, D., Liu, Y., DeWaters, J., Small, M. M., De Souza, J. G., & Shepherd, D. "Mapping Learning Objectives of Project-Based Undergraduate Software Engineering Courses to CC2020 Competency Model." In *IEEE Frontiers in Education Conference (FIE)*, 2023. DOI ↗

⟨C1⟩ De Souza, J. G., Flavell, M., **Suleiman, A. D.**, Shepherd, D., DeWaters, J., Small, M. M., Liu, Y., & Hou, D. "The Importance of Project-Scale Scaffolding for Retention and Experience in Computing Courses." In *IEEE Frontiers in Education Conference (FIE)*, 2023. DOI ↗

Services

- **PC Member** – Served on the program committee for ACM SIGCSE Technical Symposium, 2026
- **Peer Reviewer** – 3 papers for 2026 ACM SIGCSE Technical Symposium, 2026
- **Peer Reviewer** – 7 papers for IEEE Frontiers in Education (FIE) Conference, 2025
- **Peer Reviewer** – 3 papers for IEEE Frontiers in Education (FIE) Conference, 2024

Awards & Scholarships

- **Graduate Research Assistantship (GRA Award)** – *Rochester Institute of Technology, Clarkson University 2022–2026.* Full PhD funding to support research in Computer and Information Science.
- **Best Presentation Award** – *Clarkson University Research and Project Showcase (RAPS), 2023.* Awarded to the top graduate research presentation, recognizing effective communication.
- **Michael Taiwo Scholarship (MT Scholarship)**, 2020. A merit-based global scholarship supporting graduate study abroad, covering test fees, application costs, and mentorship.
- **Shell SPDC Scholarship**, 2014–2019. Prestigious Nigerian national undergraduate scholarship awarded annually to high-achieving students in STEM.
- **LearnAfrica NECO Excellence Award**, 2014. Recognized for ranking second in Jigawa State on Nigeria's national secondary school exam (NECO).
- **National Mathematics Competition Finalist**, 2008. Selected as a *National Level Finalist* in the Nigerian Turkish International College National Mathematics Competition.

Technical Skills

Languages: Java, Python, C++, PHP, JavaScript, Bash, SQL (Postgres, MySQL)
Backend Frameworks: Spring Boot, Flask, Django, Laravel
Frontend/Web: Vue, React, HTML, CSS, Tailwind CSS, Bootstrap, Jinja2, JavaFX
LLMs: Prompt Engineering, Retrieval-Augmented Generation (RAG), Fine-tuning, LLM Agents
AI/ML & Data Science: PyTorch, Hugging Face Transformers, scikit-learn, pandas, NumPy, MATLAB
HPC & Distributed Computing: Cuda, OpenMPI, Slurm, Red Hat OpenHPC
Cloud Platforms: AWS (EC2, S3), Google Cloud Platform (BigQuery, Cloud Storage), Firebase
Developer Tools: Git, Docker

Professional Memberships

- **Institute of Electrical and Electronics Engineers (IEEE)** – Member since 2023
- **IEEE Young Professionals** – Active member since 2023
- **Association for Computing Machinery (ACM)** – Professional member since 2024
- **ACM Special Interest Group on Computer Science Education (SIGCSE)** – Member since 2023
- **American Society for Engineering Education (ASEE)** – Member in DSAI and CIT divisions 2025

References

- **Dr. Daqing Hou** – Professor & Chair, Department of Software Engineering
  Rochester Institute of Technology. NY, USA
  Email: dqvse@rit.edu
  Relation: Ph.D. Advisor

- **Dr. Yu Liu** – Associate Professor, Department of Electrical and Computer Engineering
  Clarkson University. NY, USA
  Email: yuliu@clarkson.edu
  Relation: Research Collaborator

- **Dr. Hamzat O. Aliyu** – Lecturer, Department of Information & Media Technology
  Federal University of Technology, Minna. Nigeria
  Email: hamzat.aliyu@futminna.edu.ng
  Relation: Lecturer