MICAH LEE MCCOLLUM

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m-lm.github.io
github.com/m-lm

Education

University of Arkansas, Fayetteville 2023 – 2026
B.S. Computer Science, minor in Mathematics
Chancellor's List 2x, Dean's List 2x
Honors College
GPA: 3.89/4.00

University of Arkansas, Pulaski Technical College 2021 – 2023
A.S. Technology and Engineering
Chancellor's List 4x
GPA: 4.00/4.00

Relevant Courses: Database Management Systems, Honors Operating Systems, Algorithms, Information Retrieval, Honors Programming Paradigms, Artificial Intelligence, Software Engineering, Computer Architecture

Experience

Research Assistant Summer 2025
University of Arkansas, Fayetteville
Advisor: Dr. Susan Gauch
Conducted research into knowledge graph-based retrieval augmented generation (RAG) as part of my honors thesis on retrieval methods for grounding large language models (LLMs) with contextual reasoning. Performed literature review and refactored experimental Python code.

Teaching Assistant Summer 2025
University of Arkansas, Fayetteville
Supervisor: Dr. Susan Gauch
Assisted as the sole teaching assistant for the accelerated Programming Foundations I online course with 30+ students, grading C++ programming projects and providing student feedback during office hours.

Projects & Skills

Key-Value Store present
Built an in-memory key-value store in C++ with minimal dependencies, supporting data persistence through append-only logs with compaction, compression and serialization. Provides both command-line and TCP-based network interfaces, user configuration, and automated build/deployment via

shell scripts. Improved speed of compression by over 21x, file writes by 41%, and compaction by 30% over the course of development.

ShakesNet 2025
Created a Python program to generate temporal social networks of characters for all of Shakespeare's 39 plays weighted by co-relation frequencies, with visualization and file export functionality for external network analysis programs such as Gephi.

Minmath 2024
Developed a full-stack web app to improve mental math skills, featuring user accounts, leaderboards, personal statistics, customizable gameplay, and real-time feedback with a clean minimalist interface for a streamlined experience. Built with JavaScript/HTML/CSS on the frontend and Django/PostgreSQL on the backend.

Discord Bot 2023
Wrote and deployed a Python Discord server bot that utilizes third-party APIs and web scraping techniques to deliver game information to users, including daily challenges, weekly updates, and gameplay build generation.

Skills: C++, Java, Python, JavaScript, HTML/CSS, SQL
Tools: Linux, Git, Django, Bash

Awards & Honors

Taft, O'Neal, Geels Scholarship (2x), University of Arkansas 2024 – 2026
Merit-based engineering scholarship awarded for academic excellence.

Published in *Milestones* Academic Journal vol. 17, Pulaski Technical College 2022
for "The Impact of Codebreaking During World War II"

Math Scholar Award, Pulaski Technical College 2022

Outstanding Chemistry II Student Award, Pulaski Technical College 2022