MICAH LEE MCCOLLUM

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⭘ github.com/m-lm

Education

University of Arkansas, Fayetteville   2023 – 2026
B.S. Computer Science, minor in Mathematics
Honors College
GPA: 3.89

University of Arkansas, Pulaski Technical College   2021 – 2023
A.S. Technology and Engineering
GPA: 4.0

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

Experience

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

Teaching Assistant   Summer 2025
University of Arkansas, Fayetteville
Assisted Dr. Susan Gauch 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

TaprootDB   present
Designed and built a key-value store in C++ with minimal dependencies,
supporting data-persistent 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. Sped up
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 vanilla 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 randomized gameplay build generation.

Skills: C++, Java, Python, JavaScript, HTML, CSS, SQL, Cypher, Linux, Git, Django, Docker

▬▬ Awards & Honors ▬▬

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

Chancellor's List (6x), University of Arkansas (2x), Pulaski Technical College (4x)   2021 – 2024
Recognized for earning a 4.0 term GPA.

Dean's List (2x), University of Arkansas   2024 – 2025
Recognized for earning a 3.75+ term GPA.

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