

# 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

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.

<b>ShakesNet</b>	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.	
<b>Minmath</b>	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.	
<b>Discord Bot</b>	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.	
<b>Skills:</b> C++, Java, Python, JavaScript, HTML, CSS, SQL, Cypher, Linux, Git, Django, Docker	

## --- Awards & Honors

<b>Taft, O'Neal, Geels Scholarship (2x)</b> , University of Arkansas	2024 – 2026
Merit-based engineering scholarship awarded for academic excellence.	
<b>Chancellor's List (6x)</b> , University of Arkansas (2x), Pulaski Technical College (4x)	2021 – 2024
Recognized for earning a 4.0 term GPA.	
<b>Dean's List (2x)</b> , University of Arkansas	2024 – 2025
Recognized for earning a 3.75+ term GPA.	
<b>Published in <i>Milestones Academic Journal</i> vol. 17</b> , Pulaski Technical College for "The Impact of Codebreaking During World War II"	2022
<b>Math Scholar Award</b> , Pulaski Technical College	2022
<b>Outstanding Chemistry II Student Award</b> , Pulaski Technical College	2022