SIERRA MENDELSSOHN

sierralm.dev | sierralm@protonmail.com | github.com/sierralm | linkedin.com/in/sierralm/
Atlanta, GA (open to relocation)

EDUCATION

Georgia State University Atlanta, GA
B.S. Computer Science, Mathematics Minor Graduating May 2027
Cumulative GPA: 3.38, Major GPA: 3.59
Relevant Coursework: Deep Learning, PINNs, Distributed Data Processing, Simulations, Operating Systems, Algorithm Analysis and Design, Functional Programming, Data Structures, Database Management, Discrete Mathematics, Mathematical Proofs, Multivariate Calculus, Statistics, and Linear Algebra.

SKILLS

Programming Languages: Python, C++, Java, C, C#, Assembly
Data Technologies: PyTorch, Ray, NumPy, Pandas, PySpark, TensorFlow, MySQL
Other: Linux, Docker, OpenRouter, LLM APIs

WORK EXPERIENCE

SIMS Lab, Georgia State University, Atlanta, GA ***Research Assistant*** April 2026 – August 2026

- Built an LLM-powered natural-language interface in Java that lets first-time users configure FireMapSim wildfire simulations without a tutorial or onboarding.
- Designed the system prompt and the data flow between the FireMapSim web app and the OpenRouter API, with validation logic to catch and recover from malformed model output.
- Prototyped a personalized LLM-based tool that assists graders in evaluating student submissions for intro programming courses (CSC 1301/1302), now in full development.

Self-employed, Atlanta, GA ***Computer Science Tutor*** March 2026 – Present

- Teaching Python fundamentals and syntax to students from non-technical backgrounds.
- Tailoring explanations of data structures and algorithms to each student's learning style without sacrificing technical depth.
- Connecting the basics of programming with their real-world applications by showing actual use cases for each topic.

PROJECTS

Distributed Neural Network Training ***Python, PyTorch, Ray***

- Built a proof-of-concept distributed training pipeline with Ray Train and PyTorch, parallelizing gradient descent across several worker nodes and reaching >98% test accuracy on MNIST.
- Implemented a deterministic result aggregation algorithm to ensure consistent results and prevent race conditions across workers.
- Benchmarked performance across worker counts and found that communication overhead outweighed parallelization gains for small workloads like MNIST.

Multi-Threaded Process Manager Simulation ***C++, POSIX threads***

- Synchronized a bounded buffer between producer and consumer threads using POSIX mutexes and semaphores, preventing race conditions and deadlock.
- Implemented manual memory management using simulated Process Control Blocks.
- Integrated a producer/consumer scheme to simulate resource allocation and deallocation within a buffer.

UPS Power Manager ***Python, Raspberry Pi, Linux***

- Raspberry Pi service that monitors the UPS, logs power history, and sends shutdown/startup signals to different devices depending on conditions.

ORGANIZATIONS

oSTEM at GSU ***President, Founder*** August 2026 – Present

- Started chapter from the ground up, recruiting 30+ individuals in the span of weeks.
- Created a management structure optimized for efficiency, assigning clear roles, duties, and hierarchy.

Math & Stats Club ***General Member*** August 2026 – Present

Programming Club at GSU (ProGSU) ***Finance Team*** January 2026 – Present

- Planning logistics and managing budget for events with 500+ attendees.