

Zayd Abualfellat

Grand Blanc, MI | zabualfe@gmail.com | (248) 216-2728 | <https://www.linkedin.com/in/zabualfe/> | Portfolio

EDUCATION

Michigan State University, College of Engineering
Bachelor of Science, Computer Science, GPA: 3.7/4.0
Pre-Law-based Cognate | Dean's List

E. Lansing, MI
September 2022 - May 2025

TECHNICAL SKILLS

Languages: C++, Python, Lua, JavaScript, HTML/CSS, SQL, C

Frameworks & Tools: Flask, Git, GitHub, Jira, Docker, Postman, AWS (Bedrock, S3, Lambda, OpenSearch, Cloudwatch)

AI/ML: LangChain, Ollama, NumPy, Amazon Bedrock

EXPERIENCE

Amazon

E. Lansing, MI

Capstone Project Engineer

January 2025 - May 2025

- Designed a code parsing and metadata extraction pipeline to process 1,000+ architecture and code assets across Python, JavaScript, and C++, supporting large-scale semantic indexing
- Constructed vector embedding workflows via Amazon Bedrock and custom models to generate searchable representations of technical content
- Implemented LLM-backed retrieval and summarization tools through Bedrock APIs, simplifying access to reusable internal code and documentation
- Assembled a cloud-native semantic search platform using OpenSearch, Lambda, and S3, boosting code discovery accuracy by 90% and reducing response latency

Michigan State University

E. Lansing, MI

Undergraduate Learner's Assistant

January 2023 - May 2024

- Mentored 500+ students in C++ Programming II and Software Design by offering hands-on code reviews, debugging assistance, and conceptual guidance
- Led structured help sessions and one-on-one support to reinforce key topics such as memory management, inheritance, and function design
- Improved student comprehension and code quality through targeted clarification of language features and design strategies

Roblox

San Mateo, CA

Community Manager Intern

May 2023 - August 2023

- Directed creation of the Connect Hub, a collaborative experience supporting 100,000+ creators, by coordinating feature rollouts and QA
- Investigated gaps in creator education across regions and introduced a multilingual training program focused on game development fundamentals
- Piloted the initiative in the Portuguese developer community, generating 20+ valid submissions within the first week and broadening creator engagement

Roblox

Remote

Summer Accelerator Intern

May 2022 - July 2022

- Developed core frontend and backend systems for a prototype experience using Lua, contributing to gameplay logic, user interface components, and server-side infrastructure
- Collaborated with a 5-person team to plan, implement, and debug modular systems, ensuring smooth client-server interaction and extensibility
- Delivered a fully functional multiplayer prototype under tight timelines, laying the foundation for further iteration and community testing

PROJECTS

Active Park Assist System Development

E. Lansing, MI

Programmer

August 2024 - November 2024

- Composed a full software requirements specification (SRS) for an APA system integrating real-time obstacle detection and driver override protocols
- Outlined component behavior through UML diagrams (use case, domain, state, and sequence), capturing interactions between sensors, VCS, and HMI
- Built a 3D simulation prototype modeling parallel/perpendicular parking, dynamic obstacle response, and maneuver timeouts
- Supported functional verification and stakeholder feedback through the interactive prototype and scenario-driven demos

2D Basketball Physics Engine

E. Lansing, MI

Programmer

August 2023 - November 2023

- Engineered a physics simulation in C++ to model basketball scoring, applying principles of motion and collision detection
- Organized codebase with object-oriented design, employing UML diagrams to define system architecture and class relationships
- Finalized gameplay behavior through coordinated systems for physics, rendering, and logic interaction