

Joshua Ibrom

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Education

MS Computer Science | Texas A&M-San Antonio. 08/2024 – 05/2026
GPA: 3.9/4.0 | Coursework: Algorithms, Cloud Computing, Database Systems, Operating Systems, Networks.
BS Computer Science | Texas A&M-San Antonio. 08/2017 – 05/2024
Coursework: Algorithms & Data Structures, ML / AI, Linear Algebra, Programming Languages.

Work Experience

Web Application Developer III 07/2025 – Current
TAMU-SA ITS Web Team | San Antonio, TX

- Engineered a **23x performance gain** (380s to 16s) for a 1,000-record data intake pipeline, achieving a **95% reduction in latency** by implementing **concurrent I/O** and **TCP connection pooling**.
- **Architected a multithreaded data extraction engine in Python**, achieving a **10x throughput increase** by implementing **thread pools** to generate a **RAG-friendly dataset**.
- **Developed internal systems tooling** to unify and stream log outputs in real-time, reducing team debugging latency and improving **observability across the stack**.
- **Mentored a team of 4 student workers** through rigorous **code reviews** and the development of standalone demos while managing data intake pipeline refactors for **secure, real-time processing**.

Research Technician 12/2024 – 07/2025
TAMU-SA | San Antonio, TX

- Engineered an **automated data pipeline** to scrape and process **~650 faculty CVs**, utilizing an **LLM** for citation formatting and **SQLite** for structured data persistence.
- **Integrated academic publication tracking** in collaboration with university stakeholders, streamlining the display of research outputs and **enhancing institutional visibility** of faculty achievements.

Web Development Intern 05/2024 – 08/2024
TAMU-SA ITS Web Team | San Antonio, TX

- **Identified and remediated critical Broken Access Control (BFLA/IDOR) vulnerabilities** in a legacy LAMP stack application, preventing unauthorized CRUD operations on sensitive user data for over **8,000+ stakeholders**.

Projects

Interdisciplinary Knowledge Graph In Progress
Search & Discovery Infrastructure | Laravel, React, Elasticsearch

- Scaling legacy institutional data into a discovery platform using a unified **Laravel/React** stack to foster cross-departmental academic collaboration.
- Evaluating and prototyping an **Elasticsearch** cluster inversion layer to implement fuzzy search, tokenized entity matching, and high-performance querying over large publication datasets.

Multithreaded RAG Extraction Engine 03/2026
Internal Tooling | Python

- Architected a concurrent data extraction engine utilizing **custom thread pools** to isolate, process, and build structured, tokenization-ready datasets for LLM ingestion.
- Implemented robust HTML document parsing logic via **BeautifulSoup** to extract unstructured text into highly clean, structured schemas while maintaining data normalization.

Skills

Programming: Python, Rust, Zig, Javascript/Typescript, PHP.
Systems & Tools: GNU/Linux, Multithreading, Networking, Git, Vim.
Databases & Data: SQL, MariaDB, SQLite, Vector Embeddings (RAG), PostgreSQL, Firebase Firestore.
Frameworks/Libraries: React, Astro, Svelte, Flask, Monolog, Bootstrap.

Leadership & Professional Service

Staff Advisor 01/2026 – Current
TAMU-SA ACM

Developed and led an **Introduction to Rust** workshop, **teaching memory safety, ownership, and low-level systems concepts** to university students.