Raghav Ojha

737-335-9057 | jeh267@txstate.edu | linkedin.com/in/imraghavojha | github.com/imraghavojha

Education

Texas State University San Marcos, TX

B.S. in Computer Science, Minor in Mathematics | GPA: 3.8 *Aug. 2023 – May 2028*

- Relevant Coursework: Algorithm Analysis, Discrete Math II, Object-Oriented Programming, Operating Systems, Software Engineering
- Awards: Presidential Honors Scholarship (120K USD), Dean's List, Honors College Student
- Achievements: TXST Open Datathon 2025 (1st Place), Austin AI Community Hackathon (Runner-up)

Experience

IT Assistant May 2024 – Sep. 2024

Texas State University – Office of Distance Education *San Marcos, TX*

- Built a central inventory database using **SQL** and **Access** to track **$2M+** in hardware, improving reporting accuracy by **25%** and reducing audit errors.
- Automated setup for **100+** remote teaching devices using **PowerShell** and **Python** scripts, saving hours of manual work. Wrote **Python** scripts fixing **100+** broken links on website.

Software Developer (Course Project) Jan. 2026 – Present

Texas State University – Clio POS System *San Marcos, TX*

- Collaborated with restaurant managers to gather requirements; worked in a **5-person agile team** using **Jira** and **Bitbucket** to develop a **full-stack POS system**.
- Built **role-based access**, table management, and order queues using **React**, **FastAPI**, **Python**, and **SQLite**.

Student Advising Assistant – Computer Science June 2024 – Aug 2025

Texas State University – University Advising Center *San Marcos, TX*

- Advised **800+** new students individually on degree requirements, ensuring successful first-semester registration.

Projects

Lit – Local Git Clone | ***Java, Gradle, Bash, JUnit, SHA-1***

- Developed a version control system replicating core **Git** functionalities (`init`, `add`, `commit`, `merge`, `diff`, etc), using **SHA-1 hashing** and object **serialization**.
- Utilized **Gradle** for build automation and **JUnit** for **unit testing**.

StreamCI [Live] | ***Java, Spring Boot, PostgreSQL, WebSockets, REST API***

- Engineered a real-time CI/CD analytics platform using **Spring Boot** and **PostgreSQL** that processes GitHub webhooks to track build metrics and broadcasts live pipeline status updates via **WebSockets**.

Lagoon – Daemonless Environment Manager [Website] | ***Go, Nix, Bubblewrap, Linux***

- Replaced **Docker** with a **rootless Nix sandbox** that starts **10x faster** on **Raspberry Pi** with no daemon.
- Runs **multi-process apps** with memory limits, logs, and **host port binding** in a single **6MB binary**.
- Guaranteed bit-for-bit identical environments via **nixpkgs pins**; exports **.nar snapshots** for offline deployment.

Enigma Machine Simulator | ***C++, JavaScript, Three.js, Docker, CMake***

- Modeled a WWII Enigma machine in **C++**, achieving **80% code coverage** with **Catch2**. Automated builds via **Docker** and **GitHub Actions**.

MonkFish – Chess Engine [Live] | ***Python, Stockfish, React, UCI Protocol***

- Wrote a custom evaluation algorithm parsing **Stockfish**'s analysis tree to reward balanced play, penalize overextensions, and support **UCI** protocol. Deployed with **React**.

Technical Skills

Languages: Python, Java, C++, SQL, Bash, JavaScript, HTML/CSS, Go
Frameworks: FastAPI, Spring Boot, React, Flask, Three.js, JUnit, Catch2, NumPy
Tools: Git, Docker, Linux, VS Code, PostgreSQL, Gradle, CMake, Nix, Jira, Bitbucket