Raghav Ojha

github.com/imraghavojha

Email: jeh267@txstate.edu
Mobile: 737-335-9057

EDUCATION

- **Texas State University** San Marcos, TX
  Bachelor of Science in Computer Science with a Minor in Mathematics; GPA: 3.8 *Aug 2023 – Aug 2027*
  - **Coursework:** Algorithm Analysis, Discrete Math II, OOPs in Java, Computer Architecture
  - **Academic Achievements:** Presidential Honors Scholarship Recipient, Dean's List, Honors College Student

EXPERIENCE

- **Texas State University – Office of Distance Education** San Marcos, TX
  IT Assistant *May 2024 – Sep 2024*
  - **Database Design** Designed and deployed a centralized IT asset database in **SQL** and **Microsoft Access** to track $2M+ in hardware, improving reporting accuracy by 25%.
  - **Automated** online learning workflows with **PowerShell**, **Bash**, and **Python** scripts, integrating with schedulers (**cron**, **Task Scheduler**) to streamline 100+ device setups & support video recording/remote teaching processes.
  - **Web Tools** Improved the department website by building content-auditing scripts in **Python** and **Bash** that fixed 100+ broken links, enforced integrity checks, and integrated with **Git** for version control.

- **Texas State University – University Advising Center** San Marcos, TX
  Student Advising Assistant – Computer Science *Jun 2024 – Present*
  - **Department Representation** Served as one of the first points of contact for new **Computer Science** and **Data Science** students at Texas State, offering one-on-one advising during Student Orientation.
  - **Academic Communication** Helped over 800 students and families understand academic policies, registration systems, and program options in a clear, approachable manner.

PROJECTS

- **StreamCI – Real-Time CI/CD Pipeline Analytics Platform** Live Github
  Java, Spring Boot, Apache Kafka, PostgreSQL, Redis, Railway, Prometheus, WebSockets
  - Built a distributed analytics platform using **Java Spring Boot** with **Apache Kafka** for high-throughput event streaming from CI/CD systems, processing 1000+ webhook events per minute with **Redis** caching achieving sub-200ms API response times consistently.
  - Implemented time-series predictive algorithms tracking 15+ metrics per pipeline, deployed on **Railway** with **PostgreSQL** and **Prometheus** monitoring, providing real-time queue depth forecasting and performance trend analysis with 5-second alert latency.
  - Designed intelligent alerting system with configurable thresholds and **WebSocket** dashboard updates, enabling proactive pipeline monitoring across GitHub Actions, Jenkins, and GitLab CI.

- **Lit – A Local Git Clone in Java** Github
  Java, Gradle, Bash, JUnit, SHA-1, Serialization, CLI, Agile
  - Built a **Java** Git clone with custom content-addressable storage using **SHA-1** hashing and object **serialization**, implementing recursive file tracking with `Tree` & `Blob` objects to manage complex directory state changes.
  - Wrote a full **CLI** for versioning (`init`, `add`, `commit`, `delete`, `merge`), using **Gradle** for build automation and extensive **JUnit** testing to ensure robust commit history integrity and object lifecycle management.

- **Enigma Machine Simulator** Live Github
  C++, STL, JavaScript, Three.js, Docker, CMake, CI/CD, OOP
  - Developed a **C++** simulator of the WWII Enigma I machine with accurate modeling of its rotors, reflectors, and the double-stepping anomaly, paired with an interactive **3D visualization** built in **JavaScript** & **Three.js**.
  - Achieved 80% unit test coverage using **Catch2** and automated the entire build and test process with **Docker** and a CI pipeline using **CMake** and **GitHub Actions** to ensure reliable cross-platform compatibility.

- **MonkFish – A Zen-Inspired Chess Engine** Live Github
  - Built a custom **Python** evaluation algorithm parsing **Stockfish**'s analysis tree to reward balanced play, penalize overextensions, and support **UCI** protocol. Deployed a modified **React** frontend for interactive gameplay.

SKILLS & ACHIEVEMENTS

- **Programming Languages** Java, C++, Python, SQL, Bash, HTML, CSS, JavaScript
- **Frameworks & Libraries** Spring, JUnit, Catch2, Maven, Gradle, CMake, NumPy, Matplotlib, OAuth, JPA, Kafka
- **Development Tools** Git, Docker, Kubernetes, Linux, AWS S3 Lambda, VS Code, Vim, Jira, PostgreSQL, Jenkins
- **Hackathons** TXST Open Datathon 2025 – First Place, Austin AI Community Hackathon – Bounty Hunter Runner-up