

Tushar Reddy

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EDUCATION

California State University, Chico

Master of Science in Computer Science

Chico, CA

Aug 2023 – Aug 2025

Visvesvaraya Technological University (VTU)

Bachelor of Engineering in Computer Science

Bangalore, India

Sep 2019 – Jun 2023

TECHNICAL SKILLS

Languages: Python, JavaScript/TypeScript, Java, C++, SQL (MySQL, MariaDB), Cypher (Neo4j), HTML/CSS

Frameworks/Libraries: React, Node.js, Express, Flask, Playwright, LangChain, Sentence-Transformers, FAISS, Tailwind CSS, Axios, JWT, Bcrypt, LLMs, Stable Diffusion, OpenCV

Databases: FAISS (Vector), Neo4j (Graph), MariaDB/MySQL (SQL), JSON (Metadata)

Developer Tools: Git/GitHub, Docker/Compose, Postman, GCP/AWS, Linux/Unix, Cursor

EXPERIENCE

Graduate Research Assistant (Thesis)

California State University, Chico

Jan 2025 – Current

Chico, CA

- Built RAG system reducing LLM hallucinations for historical queries using 118k Guardian articles.
- Engineered Python pipeline processing 1.3M text chunks with Sentence-BERT embeddings and FAISS indexing.
- Built Flask API enabling real-time comparison of standard vs. context-enhanced responses.
- Created React frontend allowing users to verify AI responses with cited news sources instantly.
- Established automated evaluation framework measuring LLM accuracy across 8 performance criteria.

Undergraduate Research Assistant

DSCE

May 2022 – May 2023

Bangalore, India

- Trained multiple CNN models on image classification to automate veterinary disease workflow.
- Optimized model performance through systematic preprocessing and batch normalization techniques.
- Reduced training time by implementing efficient data pipelines and architecture improvements.
- Integrated the ML models through different web applications, customized for production use.

Software Engineer Intern

Tequed Labs

May 2022 – Aug 2022

Bangalore, India

- Shipped full-stack application serving user data management with 95% test coverage (Jest/Playwright).
- Implemented secure JWT authentication reducing login issues and improving user retention.
- Automated deployment pipeline cutting release time from AWS to using Fly.io CI/CD.

PROJECTS

CineStark (Frontend & Infra Lead) | *React/TS, Node.js, MariaDB, Docker, Tailwind*

Aug 2024 – Dec 2024

- Led 4-person team building movie platform with containerized microservices architecture.
- Architected React frontend handling user authentication, recommendations, and real-time statistics.
- Orchestrated Docker deployment managing frontend, backend, and database containers.
- Maintained 90%+ test coverage with Vitest ensuring reliable production deployments.

Graph-Based Movie Recommender | *Python, Neo4j, Cypher, Pandas, GDS*

Jan 2024 – May 2024

- Engineered recommendation engine processing 50k+ movies using Neo4j graph database relationships.
- Implemented similarity algorithms (Cosine, Time decay) generating personalized movie suggestions.
- Optimized data loading pipeline handling IMDb datasets with Cypher batch processing efficiency.
- Applied KNN and community detection algorithms improving recommendation accuracy by 25%.

OTHER INTERESTS

Hobbies: Photography, Tennis, Tech (Displays, Audio, Keyboards), Worldbuilding

College Leadership: Co-led Coding Club, organized Hackathons; Mentored members in algorithms/data structures

Volunteering: Assisted animal rescue/rehabilitation at Transit Treatment Center.

Sports: Worked as a Teaching Assistant for Chico State's intermediate Tennis class for 3 semesters.