

Tushar Reddy

+1-530-781-6389 | tusharreddy2023@gmail.com | linkedin.com/in/tushar-reddy | tusharreddy.com

EDUCATION

California State University, Chico

Master of Science in Computer Science

Chico, CA

Aug 2023 – May 2025 (Expected)

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, LangChain, Sentence-Transformers, FAISS, Pandas, Material UI, Tailwind CSS, Jest, Vitest, React Testing Library, Axios, JWT, Bcrypt
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)

Jan 2025 – Current

California State University, Chico

Chico, CA

- Built a full-stack RAG system for historical QA using archived news (Guardian API) to enhance LLM accuracy.
- Created Python pipeline for data ingestion (requests), text extraction (BeautifulSoup), chunking (LangChain), and generating Sentence-BERT embeddings.
- Implemented vector search using FAISS (IndexFlatL2) and managed metadata linkage with JSON.
- Developed Flask API for RAG query processing, LLM API integration & comparing standard vs. RAG responses.
- Built React/TypeScript frontend with Material UI for side-by-side response display and context visualization.

Undergraduate Research Assistant

Oct 2022 – Apr 2023

DSCE

Bangalore, India

- Developed and deployed a multi-class image classification model (96% accuracy) using Python, Tensorflow, Keras, and Streamlit.
- Applied data preprocessing (filtering, scaling, splitting) for improved model training.
- Designed CNN architecture with convolutional/pooling layers and batch normalization.

Software Engineer Intern

May 2022 – Aug 2022

Tequed Labs

Bangalore, India

- Implemented a full-stack application (React, Node.js, Express) with REST APIs for user data management
- Tested React components using Jest/Cypress; Implemented user authentication with JWT. Monitored API traffic.
- Used Fly.io for CI/CD pipeline and deployment; Managed domain/DNS settings via Google Domains & Cloudflare.

PROJECTS

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

Aug 2024 – Dec 2024

- Led frontend development (React, TypeScript, Tailwind) for a movie discovery platform, focusing on UI/UX.
- Integrated frontend w/ backend API (Node.js/Express) for auth (JWT), movie data, recommendations, user stats.
- Managed application infrastructure using Docker/Compose for containerizing frontend, backend, and MariaDB.
- Implemented testing (Vitest/RTL, Jest) and maintained code quality (ESLint/Prettier) within a Git workflow.

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

Jan 2024 – May 2024

- Built a movie recommender using Neo4j to model IMDb data relationships (movies, genres, actors).
- Processed data with Python/Pandas; Loaded into Neo4j using Cypher/APOC batch processing.
- Calculated movie similarity via Cosine (genres) and Time decay (release year) using Neo4j GDS.
- Implemented KNN and Louvain community detection in Neo4j/Cypher for generating recommendations.

OTHER INTERESTS

Hobbies: Sci-fi/Fantasy (Books, Worldbuilding), Tech (Displays, Audio, Keyboards), Tennis.

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

Competitive Programming: Solved 200+ problems (LeetCode, etc.); ACM-ICPC regional participant.

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