

SHIVASHANKAR CHANDRASHEKARAI AH

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Software Developer with 5+ years of experience building scalable products from the ground up. Adept at driving ROI through innovative solutions, with a strong background in back-end development. Seeking a challenging software development position to leverage my expertise in modern frameworks, cloud services, and AI-driven applications.

EDUCATION

Master's in Computer Science, University of Texas at Dallas, Texas
GPA 3.8/4

May 2025

Bachelor's in Computer Science, JSS Science and Technology University, Mysore, India
CGPA 9.02/10

Sep 2020

WORK EXPERIENCE

Software Engineer, Xrep.AI – Dallas, Texas

June 2025 - Present

- Engineered a **resilient task queue** using Celery and Redis to manage **OpenAI API rate limits (TPM)** and ensure reliable delivery of text messages.
- Built a **RAG pipeline** using **Pinecone**, solved challenges related to large file sizes, custom chunking method for CSV files.
- Built a **dynamic tool calling** functionality for AI agents, helping users create custom tool calling functionalities for their AI agents.

Software Engineer Intern, Xrep.AI – Dallas, Texas

May 2024 – May 2025

- Collaborated on **MySQL database design** and implemented **caching systems** to efficiently support **100,000 daily inbound/outbound calls by managing Twilio's CPS (Calls Per Second) and concurrent stream constraints**.
- Architected backend system for **customer support voice AI platform** using WebSockets, FastAPI, Redis, and Express.js to manage real-time audio streams via Twilio with sub-second latency.
- Developed an AI-driven **reminder scheduling system** for Xrep.AI that targets inactive customer conversations and customers who haven't replied to the first text, projected to improve **conversion rates by 25%**. This functionality was built using **cron jobs, celery, mysql, redis and rabbitmq**.
- Launched the platform by onboarding the first paying customer and scaled the backend to process **1 million messages daily to support conversations between users and LLMs**.
- Implemented React-based UI features and established **CI/CD pipelines** to accelerate deployment and testing cycles.

Senior Engineer, Rizzle - Hyderabad, India

Jul 2021 – Jul 2023

- Led development of "Video Smart Cropping," a deep learning-based, **saliency-aware video cropping solution** using object localization. **Improved processing times by 30% through parallel processing** techniques and AWS Lambda container deployments, enhancing video quality.

Software Engineer, Myelin Foundry - Bengaluru, India

Sep 2020 – June 2021

- Designed AWS infrastructure** for delivering encrypted deep learning models to Android devices, enabling super-resolution capabilities. Successfully deployed the system to **millions of Android devices during a POC with Hotstar IPL**.

PROJECTS

Lightweight Redis-Style In-Memory Datastore

Aug 2025 – Oct 2025

- Built a lightweight, Redis-inspired in-memory key-value store in Java, supporting basic commands (SET/GET) and a simple expiration mechanism. I implemented a clean request parser with RESP-style serialization and used Java NIO to handle multiple client connections efficiently. Added a minimal persistence layer using periodic snapshots to maintain data across restarts, providing a solid balance between performance and reliability.

RAG chatbot using PyTorch and Vector Database, UT Dallas

Feb 2024 – Mar 2024

- Built and trained the **Transformer** model from scratch using **PyTorch** to create sentence embeddings of the text documents in the knowledge base. Finetuned **Llama-2-7B** chat model to answer questions related to the knowledge base making by fetching the relevant documents from **ChromaDB vector database** based on the user's query.

SKILLS

Programming Languages – JavaScript, Java, Python, Kotlin, C++

Web Frameworks: SpringBoot, NodeJS, Django, Fast API, Express, Flask

Database – MySQL, MongoDB, Postgres, Redis, Pinecone, ChromaDB