

Prerana Nale

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SUMMARY

Software engineer with 2+ years of professional experience building full-stack systems and AI-powered applications. Shipped production RAG pipelines, self-improving ML systems and distributed microservice backends using Python, TypeScript, Java and React. MS in Software Engineering at Arizona State University, GPA 4.0.

EXPERIENCE

Full-Stack Developer

Aug 2021 – Jan 2024

4 Systems Info Solutions

Pune, India

- Built full-stack applications in Python, JavaScript and Java with Spring Boot REST APIs and React frontends, processing millions of records at 75% faster throughput.
- Optimized PostgreSQL and MySQL schemas with stored procedures and indexing, cutting query latency by 40% on high-traffic endpoints.
- Added JWT and RBAC authentication across services; decomposed monolithic modules into event-driven microservices and maintained 90%+ test coverage (JUnit, pytest).
- Set up Jenkins and Docker CI/CD pipelines, reducing release cycle time by 60%; delivered features end to end across 8 Agile sprints with product and QA teams.

Instructional Assistant, Principles of Programming

Aug 2025 – Dec 2025

Arizona State University

Tempe, AZ

- Ran weekly Java labs for 150+ students on OOP, data structures and algorithms; held code reviews and co-wrote faculty assessments.

EDUCATION

Arizona State University

Tempe, AZ

Master of Science in Software Engineering; GPA: 4.00/4.00

Aug 2024 – May 2026

SKILLS

AI and ML: RAG Pipelines, Large Language Models, Vector Search, OpenAI API, LangGraph, ChromaDB, MLflow, Redis Streams, Prompt Engineering, SVD

Languages: Python (Flask, FastAPI), TypeScript, JavaScript, Java (Spring Boot), Golang, React, Redux Toolkit, Node.js

Cloud and DevOps: AWS (EC2, S3, RDS, IAM, KMS, Cognito), Docker, Docker Compose, Terraform, Jenkins, GitHub Actions, CloudWatch

Databases: PostgreSQL, MySQL, MongoDB, Redis, SQL Server, ChromaDB

Other: REST APIs, Microservices, OOP, SOLID, Agile/Scrum, TDD, Git, WCAG 2.1

PROJECTS

Data Flywheel Pipeline – Self-Improving Recommendation System

Jan 2026 – Apr 2026

FastAPI, Redis Streams, SVD, MLflow, React, Docker Compose

- Built an end-to-end ML system with 7 independent microservices (Inference, Feedback, Feature Pipeline, Scheduler, Trainer, Redis, MLflow) orchestrated in Docker Compose; feedback streamed via Redis Streams triggers autonomous retraining at 50+ new events.
- Trained a matrix factorization model on 100k MovieLens ratings (RMSE 0.947, 100% coverage); models hot-swap into production automatically after clearing an RMSE and coverage eval gate.

MedCareBot – RAG Health Education Chatbot (Capstone Project)

Jan 2026 – May 2026

React, Django, PostgreSQL, OpenAI GPT-4o-mini, ChromaDB, AWS Cognito

- Built a production RAG pipeline that embeds and indexes 83,843 FDA drug records in ChromaDB, retrieves relevant chunks at query time and generates answers with GPT-4o-mini.
- Implemented AWS Cognito auth, LLM-generated knowledge checks and PostgreSQL chat history; delivered 136 tests (Vitest + pytest) across 5 sprints in a team of 6.

Orange Sulphur – Accessible E-Commerce Platform

Aug 2024 – Dec 2024

React 19, TypeScript, Redux Toolkit, Tailwind CSS, Web Speech API

- Built a full-stack store in React 19 and TypeScript scoring 95/100 on Lighthouse (top 2% globally), with WCAG 2.1 AA compliance, voice command navigation and colorblind modes.