

# SHARAN MURLI

Austin, TX, USA | +1 (805) 891-6753 | [sharanmurl999@gmail.com](mailto:sharanmurl999@gmail.com) | <https://github.com/sharanmurl> | <https://www.linkedin.com/in/sharan-murli>

## EDUCATION

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University of Southern California  
*Master of Science in Computer Science, Los Angeles, CA*

MAY 2023 – DEC 2024

SIES Graduate School of Technology  
*Bachelor of Engineering in Computer Engineering, India*

AUG 2018 – JUN 2022

## SKILLS

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- **Programming Languages:** Java, Python, TypeScript, C/C++, JavaScript
- **Frameworks:** Kubernetes, Django, Flask, GraphQL, Unit Testing, HuggingFace, DevOps, Agile, WebFlow, SaaS, Prompt Engineering
- **Cloud Platforms/Big Data/OS:** AWS, GCP, Azure, IAM, Lambda, Linux, Memoization, Windows, Jenkins
- **Web Technologies:** Next.js, React.js, Node.js, Express.js, Vue.js, Angular, HTML5, CSS3, Bootstrap, FastAPI, TailwindCSS, Redux
- **Tools/Databases:** PostgreSQL, MongoDB, Power BI, Tableau, GIT, JIRA, Docker, Amazon S3, Redis, SQL

## EXPERIENCE

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**Software Developer, CERTInext powered by eMudhra**, Remote USA

OCT 2025 – Present

- Developed and **integrated CA connectors** within the **Certificate Lifecycle Management (CLM)** platform through secure API integrations, enabling automated certificate issuance and renewal across public and private CAs
- Implemented and maintained **discovery bots** to identify, track and provision **digital certificates** across enterprise networks, improving visibility and compliance for security teams
- Partnered with product and network engineering teams to design scalable workflows for **certificate lifecycle automation**, enhancing reliability and reducing manual provisioning effort

**AI Developer, USC Viterbi**, Remote USA

FEB 2025 – Present

- Engineered LangGraph-based agentic pipelines to build interactive knowledge graphs, reducing **research query resolution** time by **15%**
- Integrated **multi-agent orchestration** with **ComfyUI** nodes, boosting **citation retrieval accuracy** by **28%** in benchmark tests and enhancing research usability for **100+ academic queries**
- Experimented with **LLMs (Mistral-7B, GPT4All, Ollama)** for research Q&A, optimizing prompting and fine-tuning for relevance

**Software and IT Analyst, Marshall Technology Support**, Los Angeles, CA

OCT 2023 – DEC 2024

- Designed automated workflows for recurring issue detection and incident response, improving reliability and reducing downtime by **30%**
- Created **Power BI dashboards** and automated **ETL** workflows for **data ingestion**, enabling faster insights and improving operational efficiency by **25%**
- Configured **AWS CloudWatch alerts** for system performance monitoring and **fault tolerance**, reducing mean time to recovery (MTTR) and strengthening **risk management** with resilience

**Software Engineering Intern, WorkUp**, Marina Del Rey, CA

MAY 2024 – AUG 2024

- Deployed **backend microservices** using **Node.js, Next.js** and **AWS (S3, Lambda)** to create a **Chrome extension** for autofill purposes
- Boosted resume parsing accuracy by **20%** using **NER** and **optimized keyword matching** for more precise, reliable data extraction
- Partnered with teams to automate resume parsing workflows, integrating **Redux state management** and refining usability with feedback

## PROJECTS

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**Loyaltie: Personalized AI Voice Ordering Platform for Restaurants**

- Conceived and led the development of a **voice AI ordering platform** for restaurants that personalizes every call by remembering customer **preferences**, profile information and past orders
- Constructed intelligent ordering and workflow automation using **OpenAI Agents, TypeScript** and **Node.js**, reducing average order time and improving customer retention through personalized upsells
- Formulated a real-time restaurant **dashboard** with **Next.js** and **Tailwind CSS** for order management and analytics, deployed on **Vercel** to streamline operations for small restaurant owners

**AstroBio Explorer: Research Companion**

- Built an AI-powered research assistant using **FastAPI, LangChain** and **Gemini 2.5 Flash**, integrating **Qdrant** vector search to retrieve and ground answers from over **600 NASA bioscience papers** with **72% evaluation accuracy** across 181 questions.
- Developed an interactive frontend with **Next.js** and **Tailwind CSS**, featuring inline citations, multi-session chat and **SerpAPI** integration, improving research usability and **citation reliability by 40%**
- Architected a **retrieval-augmented generation** pipeline with modular agents for search, reasoning and **citation linking**, reducing response latency by **35%** and improving factual precision

**Sports Product Search Enterprise**

- Engineered a responsive product search platform using **Core Java, Spring MVC, React.js** and **Hibernate**, reducing search response time by **40%** and delivering Amazon-like user experience for sports products
- Optimized product retrieval and filtering by integrating **Oracle Database** with ETL pipelines, reducing **query latency**, improving data quality and supporting a catalog of **50K+ products**

- Secured user accounts with **Spring Security** and **JWT**, cutting unauthorized access attempts by **95%** and implemented automated builds with **Maven** and **CI/CD pipelines** for faster, error-free deployment

#### **Transfer Learning for Cross-Language Program Repair with RepairCLlama**

- Architected a transfer learning pipeline to adapt **RepairCLlama** for C debugging tasks, utilizing Java debugging knowledge to achieve a **CodeBLEU** score increase from **0.81** to **0.91** through additional fine-tuning and strengthening **reliability engineering** practices
- Refined code debugging through **LoRA-based fine-tuning**, achieving a **45%** reduction in training loss and improved error correction
- Benchmarked RepairCLlama against CodeLlama using performance and debugging metrics, achieving a **40% improvement** in **Plausible Match scores**, incorporating **code reviews** and strengthening **reliability** and **fault tolerance** of fine-tuned model pipelines

#### **eBay Product Search Platform**

- Crafted a Web and IOS product search platform, incorporating a **React.js Node/Express** proxy server to access the **eBay API**
- Modeled ETL data flows between scalable architecture and implemented **API-based ingestion**, with familiarity in **data governance** workflows and upstream/downstream pipelines (**CI/CD**)
- Integrated **Google Custom Search API** for **real-time** content retrieval, improving image search accuracy by **30%** through refined query algorithms, dynamic filtering leading to high availability and thorough **debugging/testing** of API workflows

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### **LEADERSHIP AND ACHIEVEMENTS**

- Winner at **AITX Fall 2025 Hackathon (Austin Tech Week × NVIDIA)** for developing **Loyaltie**, a voice AI food ordering agent recognized in two categories: **Weights & Biases Agentic Flow** and **Loman AI Restaurant Design**
- Earned **AWS Certified Cloud Practitioner Certification** and **Salesforce Certified AI Associate Certification**
- Published the research paper titled "***Agricultural Supply System with Permissioned Networks through Hyperledger Framework***"
- Teaching Assistant (Course Producer):** CSCI 572: Information Retrieval and Web Search Engines under **Professor Sathyanaraya Raghavachary** at University of Southern California (**USC**). Assisted in grading, documenting and managing course operations for a program centered on **real-world industry** use cases in **data retrieval** and **web development** including SEO, ML and Big Data Analytics
- Viterbi Summer Smasher** Program Team Lead (Entrepreneurial training in a tech startup environment backed by Stanford and Google)
- Led event planning, management, and logistics as **Chairperson** and **Secretary** of the **Computer Society of India (CSI)**, conducting over 15 dynamic national events and interactive workshops across India showcasing cutting-edge technologies