

# Aditi Joshi

Software Engineer

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## EDUCATION

University of Southern California - Master of Science, Applied Data Science

Cummins College of Engineering for Women - Bachelor's, Computer Engineering

## WORK EXPERIENCE

Graduate Course Assistant, University of Southern California, Los Angeles, CA, United States

Aug 2024 - Present

CSCI-401 : Design and Construction of Large Software Systems

- **Agile Execution & Delivery Leadership:** Led Scrum practices for 10 student teams across two semesters, managing full-cycle development of industry-sponsored projects and improving delivery outcomes by 40%.
- **Performance Management:** Resolved team conflicts and implemented 360° peer evaluations and structured review sessions, fostering collaboration and increasing team productivity by 3x over 8 months.
- **Technical Enablement & DevOps Integration:** Led hands-on training in Python, SQL, cloud tools, and DevOps practices using Docker and Jenkins, boosting team skills by 85% and accelerating deployments by 30%.

Software Engineer Intern, Sanofi, Bridgewater, NJ, United States

Jun 2024 - Aug 2024

- **GenAI Architecture:** Engineered a Q&A app converting natural language to SQL (75% accuracy) using AWS Bedrock, Titan Embeddings, Athena, OpenSearch, and S3, streamlining query generation and data retrieval for non-technical users.
- **LLM Fine-Tuning & Optimization:** Fine-tuned domain-specific LLMs on structured query patterns using custom datasets and AWS SageMaker, improving intent detection and SQL generation accuracy by 18%.
- **LangChain Integration:** Boosted query reliability by 40% through prompt engineering and seamless integration of Claude v2/v2.1, Haiku, and Sonnet via LangChain, enhancing model versatility and fallback strategies.
- **UX & Adoption:** Increased adoption among non-technical users by 50% by building an intuitive UI in Streamlit and adding fallback handling for ambiguous prompts.

Software Engineer, Citi, Maharashtra, India

Jul 2022 - Jul 2023

- **Agile Full-Stack Execution:** Delivered backend and frontend milestones using Java, Angular, and SQL as part of a microservices migration project; created JIRA dashboards to monitor sprint health and ensure timely delivery.
- **Backend Optimization:** Refactored legacy monolith code to microservices and optimized SQL queries in Oracle, improving API performance, scalability, and code quality by 25% through modular code and caching strategies.
- **UI Redevlopment:** Migrated legacy frontend components to Angular, replacing JSP flows; implemented secure maker-checker flows, user-based access control, reducing UI bugs by 40% through structured test-driven development.
- **CI/CD & Release Support:** Automated deployments using GitHub Actions and Jenkins, ensured stable production rollouts by debugging release blockers and performing automated regression testing using pytest.
- **Tool Development & Automation:** Designed and built a full-stack report monitoring tool using React, Python (Flask), and SQLAlchemy, automating monthly financial validations and saving 6+ hours per reporting cycle.
- **Team Enablement:** Designed tool architecture end-to-end, mentored an intern, and created and maintained detailed onboarding and process documentation in Confluence, improving team ramp-up time and knowledge transfer by 50%.

Software Engineer Intern, Citi, Maharashtra, India

May 2021 - Jul 2021

- **Reconciliation App Development:** Designed and co-developed a JavaFX-Spring Boot reconciliation tool, improving financial data validation efficiency by 50% through intuitive UI and backend automation.
- **Batch Processing & Accuracy:** Implemented reconciliation logic for data from 3 APIs, ensuring 100% accurate comparisons with automated discrepancy detection.
- **Executive Demo:** Presented a high-impact tool to 30+ senior leaders, showcasing its value in addressing key business challenges and demonstrating strong technical ownership and strategic communication.

## PROJECTS

Hybrid Recommender System for Yelp Reviews

- Developed a hybrid recommendation system using PySpark and XGBoost to predict user ratings for Yelp businesses by integrating collaborative filtering with model-based techniques, utilizing data from user profiles, reviews, tips, and photos.

Research: IBM Smart EHR Analysis with Privacy-Preserving Machine Learning

- Architected and developed an IBM-sponsored research system to study the impact of differential privacy on model predictions by training ML models on simulated EHR data using IBM's Diffprivlib for noise injection and privacy budget enforcement, and built a secure, privacy-preserving portal for researchers and database creators to access sensitive health data.

## SKILLS

**Programming Languages & Frameworks** : Java, Python, C++, SQL, Angular, React, Django, Flask, Streamlit, Scikit-learn, XGBoost, LangChain

**Databases & Data Engineering** : MySQL, PostgreSQL, Oracle, Firebase, MongoDB, NoSQL, Spark, Hadoop, Kafka, Apache Airflow, REST APIs

**Cloud & DevOps** : AWS (Glue, Lambda, EC2, Titan, S3), GCP, Azure, Docker, Kubernetes, Jenkins, Git, CI/CD, JIRA, Bitbucket

**Data Visualization & Analytics** : Tableau, Excel, Google Analytics

**Tools**

**Testing & Deployment** : JUnit, PyTest, Postman, Agile, Scrum

**System Design & Architecture** : System Design, Backend Architecture, API Design

**Certifications** : Google Advanced Data Analytics, Data Science Specialization (University of Michigan, Coursera)