Mehul Mangave

San Jose, CA | +1 (408)210-8953 | mehul.mangave@sjsu.edu | linkedin.com/in/mehul-mangave

EDUCATION

San Jose State University — **San Jose, CA, USA**
Master of Science in Computer Engineering — Degree Expected: May 2026
Vishwakarma Institute of Technology — **Pune, India**
Bachelor of Technology in Electronics and Telecommunications Engineering — Degree Received: May 2023
Relevant coursework: Designing Data Structures, Algorithm Design, Operating Systems, Advanced Computer Design, Systems Software, Artificial Intelligence and Data Engineering.

SKILLS

Languages: Terraform, Python, C, C++, Java, SQL, NoSQL, PostgreSQL, OOP
Frameworks/Tools: Django, React, Node.js, Git, CI/CD, Jenkins, MongoDB, TensorFlow, PyTorch
Platforms: AWS, Azure, Kubernetes, Docker, Linux, Windows, GitHub Actions, Gitlab
AI/ML Tools: LLM / RAG Pipelines, Knowledge Graphs , Vector Search / Embeddings, Hugging Face Transformers

EXPERIENCE

State Street Bank and Trust, Boston, US — June 2025 – Aug 2025
Cloud Engineering Intern

- Owned the full software development lifecycle for an AI-powered internal chatbot using NLP to retrieve answers from Confluence docs, improving knowledge access and reducing support overhead.
- Engineered a **Terraform automation** proof of concept (PoC) that dynamically generates infrastructure templates based on user-defined requirements, utilizing in-house modules to streamline deployment workflows and reduce manual effort by over **60**%.
- Collaborated with the Service Enablement team to architect, develop, and document reusable Terraform modules for provisioning various AWS services, contributing to scalable infrastructure practices and adherence to organizational standards.

Syngenta — June 2023 – July 2024
Cloud Engineer

- Architected multi-tier **cloud infrastructure** that supported increased user demand; and optimized resource allocation, resulting in a 25% decrease in operational costs while maintaining high availability for over 10,000 users.
- Collaborated with senior engineers to migrate over **100 AWS** accounts to **Terraform Cloud**, streamlining infrastructure provisioning and management. This migration significantly improved cloud operations efficiency and saved considerable time.
- Collaborated with the applications team to deploy scalable, low-latency services using **Terraform**, cutting deployment time by 40% and achieving 99.9% uptime.
- Managed AWS **DynamoDB** migration from legacy to new AWS accounts, ensuring a smooth transition. Managed cloud-based **database migration tasks**, optimizing the process for efficiency and **minimal downtime**.
- Led the development of cost-saving strategies in AWS, optimizing underutilized resources and achieving **$500k in annual savings** by effectively scaling down unnecessary resources.
- Implemented **Sentinel policies** for AWS and Azure services, integrating them with **Terraform Cloud**, which improved resource verification speed by 50%. This integration enhanced overall efficiency, reducing manual checks by 70%.

Syngenta — Aug 2022 – Jun 2023
Software Engineering Intern

- Provisioned cloud infrastructure for 20+ applications using **AWS** services such as **EC2**, **S3, RDS, DynamoDB, APIGateway, Lambda, ECS, ECR, and ELB** ensuring efficient deployment and scalability.
- Planned and implemented Terraform modules for AWS services that standardized infrastructure management across departments, now utilized by over 50 teams, providing a reliable framework for secure and efficient cloud resource management.
- Developed and documented a solution for AWS database services (DynamoDB, Redshift, DocumentDB, Timestream), which has been successfully adopted by teams, improving performance by 30% and enhancing data processing efficiency by 25%.

PROJECTS

Dynamic Weight Learning for Self-RAG, *Team of 2* — Aug 2025 – Dec 2025

- Developed a dynamic weighting framework for Self-RAG pipelines to improve relevance of retrieved context, addressing limitations of static weighting across retrieved documents during LLM generation.
- Implemented adaptive scoring algorithms using Python and PyTorch to re-rank and dynamically weight retrieved passages across **1000+ query evaluations**, improving contextual grounding and reducing irrelevant retrieval influence.
- Improved response accuracy and relevance in retrieval-augmented generation workflows by **~18% in evaluation experiments** while maintaining low inference overhead through optimized retrieval scoring logic.

Omnireasoner, Knowledge Graph Reasoning System, *Team of 4* — Aug 2025 – Mar 2026

- Built a knowledge-graph–augmented reasoning pipeline integrating graph traversal with LLM prompting to improve factual consistency in complex question answering.
- Designed entity linking and traversal workflows over a graph with **10K+ entities and relations**, generating interpretable reasoning paths and reducing hallucinated responses by ~15% during evaluation experiments.