

JAY GANDHI

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Work Experience

- Research Engineer**, Tata Consultancy Services (TCS Research) – Pune, India 2022 – present
- Led research and innovation initiatives and designed an automated workflow to decompose monoliths into domain-aligned microservices, reducing the manual analysis time by 80%.
 - Collaborated with senior scientists, architects, and product stakeholders to design experiments, analyze and validate results, and iterate on system design for scalability and performance.
 - Independently built a production-ready tool from scratch in Java and Python, exposing REST API and a ReactJS UI, integrated CI/CD with Jenkins.
 - Applied graph clustering algorithms (Markov, Louvain) on an undirected weighted graph with more than 50000K edges to identify service and domain boundaries, improving decomposition quality.
 - Integrated large-language models (LLMs) for semantic code summarization. Reduced manual code effort for domain mapping by 70%.
 - Deployed the tool to an internal business unit for pilot rollout, collected user feedback from 7 stakeholders, and implemented enhancements to improve usability and production readiness.
 - Delivered talks, demos, and posters at internal/external forums; authored 1 ACM paper and filed 1 patent on domain-aligned microservices decomposition.
 - Mentored four interns, successfully guiding them through project conception to delivery.

Skills

Programming: Java, Python, JavaScript

Frameworks and Tools: ReactJS, Springboot, ExpressJS, Git, Maven, Jenkins

Database Languages: MySQL, PostgreSQL

AI/ML: LLMs, Agentic AI, Prompt Engineering, Graph Clustering

Practices: System Design, Microservices, REST API Design, Unit Testing , Static Code Analysis, Agile

Education

Walchand Institute of Technology, Solapur, B.Tech (Computer Science and Engineering) CGPA: 9.62/10

2018 – 2022

Publications and Patents

- Microservices Identification using LLM (AISM, ASE 2025)** 2025
Domain Aligned Microservices Decomposition (ISEC 2025) 2025
Method and system for identifying domain aligned microservices in enterprise applications (Patent) 2025

Awards and Achievements

- Attended and presented team's work at top tier (A*) international software engineering conference (ASE 2025)
- Received the IP Creation Award for filing the patent.
- Finalist of TCS Global TACTICS 2024, an internal conference for technical architects.
- Won the Innovation Superstar Award for the publication of research papers.

Certifications

- Google Cloud Certified Generative AI Leader** 2025
AWS Certified Cloud Practitioner 2023
Microsoft Certified Azure Fundamentals (AZ-900) 2022