

Akshat Mishra

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EDUCATION

Thakur College of Engineering and Technology, Mumbai
B.Tech (Artificial Intelligence and Data Science)

CGPA: 9.70 / 10
August 2023 - June 2027

TECHNICAL SKILLS

Domains: Generative AI, Large Language Models (LLMs), Multi-Agent Systems, MLOps, Computer Vision

Programming Languages: Python, C++, TypeScript, JavaScript, Java, SQL

AI & Data: PyTorch, LangGraph, CrewAI, TensorFlow, Transformers, vLLM, OpenCV, Pandas, Numpy

Backend: FastAPI, NestJS, Flask, Django

Databases: PostgreSQL, Redis, MongoDB

MLOps & Cloud: Docker, Kubernetes, Terraform, AWS, Git

Frontend: React, Next.js, TailwindCSS

WORK EXPERIENCE

AI Software Engineer

Sorcova Health

August 2025 - Present

- Architected autonomous conversational AI agents to manage real-time user actions, reducing human intervention time by **40%** for standard workflows.
- Engineered **Model Context Protocol (MCP)** servers to standardize context retrieval, enabling LLMs to securely query 2 distinct database schemas without hallucinations.
- Designed a custom **Augmented Tree** data structure to compute user health scores, reducing calculation complexity from $O(N)$ to $O(\log N)$ for real-time updates.

Engineering Intern (AI&ML)

Sorcova Health

March 2025 - July 2025

- Optimized NestJS API architecture by refactoring dependency injection, reducing API cold-start latency by **85%**.
- Built high-throughput ETL pipelines using Apache Kafka and Spark to implement a **Change Data Capture (CDC)** system, synchronizing data across databases with sub-second latency.
- Provisioned scalable cloud infrastructure on OVH using **Terraform** and **Kubernetes**, automating CI/CD workflows for containerized applications.

PROJECTS

DB Lifecycle MCP (MCP SDK, FastAPI, SQLAlchemy, Alembic)

[GitHub](#)

- Developed an **open-source** Model Context Protocol (MCP) server that empowers LLMs to autonomously manage database lifecycles, including schema-based seeding and snapshot recovery.
- Implemented secure tool-use interfaces allowing agents to execute complex migrations and rollback strategies, reducing database provisioning time by **over 80%** compared to manual CLI workflows.
- Published the tool to PyPI with an automated GitHub Actions CI/CD pipeline, achieving **100%** automated test coverage and reducing release cycles to under **2 minutes**.

Urban Multi-Agent Simulation (LangGraph, FastAPI, React)

[GitHub](#)

- Architected a multi-agent simulation engine to model the effects of urban planning proposals, simulating **1,000+** daily interactions between **20+ autonomous** citizen agents.
- Orchestrated complex agent behaviors and decision-making loops using **LangGraph**, enabling the emergence of realistic social patterns to validate infrastructure changes.
- Built an interactive React dashboard to visualize agent trajectories and density heatmaps, rendering updates with **sub-100ms** latency for seamless real-time tracking.

CERTIFICATIONS

- Infosys Springboard - Deep Learning for Developers [Link](#)
- DataCamp - Data Scientist [Link](#)
- Supervised Machine Learning - Regression and Classification [Link](#)
- Cognizant - Artificial Intelligence Job Simulation [Link](#)