

SHIVAM MISHRA

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EDUCATION

Stony Brook University - SUNY

Master's, Computer Science

August 2024 - May 2026

GPA: 3.78

- Relevant Coursework: Distributed Systems, NLP, AI, Probability & Statistics for Data Science, Analysis of Algorithms

University of Mumbai

Bachelor's, Computer Engineering

August 2017 - May 2021

GPA: 9.06

PROFESSIONAL EXPERIENCE

Language Understanding and Reasoning Lab

Graduate Research Assistant; Advisor: Prof Niranjana Balasubramanian

Stony Brook University, NY, USA

August 2025 - Present

- Benchmarked and optimized LLM agents across 50+ long-horizon web tasks, improving completion rate by ~12% via structured prompting and context optimization; built Docker-based evaluation pipelines on AWS EC2.

Stony Brook University

Teaching Assistant

Stony Brook University, NY, USA

January 2025 - May 2025

- Mentored students in CSE 101, supervising lab sessions and teaching data structures, algorithms, and time-space complexity; proctored exams and upheld academic integrity.

Barclays

Software Engineer

Pune, MH, India

August 2021 - August 2024

- Refactored an approval platform into 12 async FastAPI microservices (PostgreSQL, Redis) orchestrated on Kubernetes via Docker with Jenkins CI/CD, reducing turnaround time by 40% and manual effort by 75%.
- Developed a secure IAM framework for payment services (8+ microservices, 400+ users) using OAuth 2.0, 2FA, AES-256, and Spring Security to enforce role-based access control and audit logging.
- Engineered an event-driven reporting pipeline (Python, Kafka) persisting normalized events to PostgreSQL and exposing RESTful APIs, processing ~30K daily events across 3 divisions, saving 14 FTEs.
- Architected an end-to-end task allocation service integrating Microsoft Graph APIs, Spring Boot, and an Appian frontend to ingest Outlook emails and extract task intent via lightweight NLP parsing, reducing manual handling by 85%.
- Designed a centralized logging and monitoring solution using ELK Stack (Elasticsearch, Logstash, Kibana), reducing Mean Time to Resolution (MTTR) by 80% through automated alerting and real-time dashboarding.

PROJECTS

Distributed Transaction Processing System | Go, Distributed Systems - [Link to project](#)

- Architected a transaction processing system (Two-Phase Commit, Multi-Paxos), processing 9000+ accounts across 3 sharded clusters with write-ahead logging for atomic rollback and resharding to reduce cross-shard transaction overhead.
- Implemented a fault-tolerant banking application with 9-node replication, incorporating locking, leader election, and failure recovery to ensure ACID properties across concurrent transactions, achieving ~600 txn/sec throughput.

AI Researcher - Multi-Agent Research Platform | Agentic AI, RAG, MLOps - [Link to project](#)

- Developed a multi-agent research system using LangGraph and OpenAI APIs to orchestrate four specialized agents with ChromaDB-backed multi-source RAG, generating citation-grounded research reports.
- Deployed FastAPI + WebSocket backend and Next.js (TypeScript, Tailwind) frontend to AWS ECS Fargate via Terraform (multi-AZ auto-scaling, ALB, RDS, Secrets Manager), with CI/CD using GitHub Actions and Docker multi-stage builds.

Financial Risk & Compliance Intelligence | Fine-Tuning, PyTorch, Hugging Face, Kubernetes - [Link to project](#)

- Built a financial risk analysis system ingesting SEC 10-K filings via ETL, transforming HTML to SFT datasets (BeautifulSoup), and fine-tuned Llama-3-8B using PEFT/QLoRA, improving ROUGE-L 0.37 to 0.45 (+21%).
- Deployed a containerized FastAPI inference service on Kubernetes with Prometheus/Grafana monitoring; load-tested via Locust and tuned resource quotas to sustain <200ms p95 latency under peak load.

SKILLS

Programming Languages: Python, Java, Go, JavaScript, TypeScript

Cloud & Backend: AWS, FastAPI, Node.js, Apache Kafka, PostgreSQL, MongoDB

Infrastructure: Docker, Terraform, Kubernetes, ELK, Nginx, Git, GitHub Actions, Jenkins

Frameworks & Libraries: PyTorch, LangGraph, LangChain, NumPy, Pandas, React