SHIVAM MISHRA

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EDUCATION

Stony Brook University - SUNY **August 2024 - May 2026**
Master's, Computer Science *GPA: 3.78*

University of Mumbai **August 2017 - May 2021**
Bachelor's, Computer Engineering *GPA: 9.06*

PROFESSIONAL EXPERIENCE

Stony Brook University **Stony Brook University, NY, USA**
Teaching Assistant *January 2025 - May 2025*

- Mentored students in CSE 101: Computer Science Principles by supervising lab sessions, explaining data structures, algorithmic thinking, and time–space complexity, and guiding programming assignments. Proctored exams and upheld academic integrity.

Barclays **Pune, MH, India**
Automation Developer *August 2021 - August 2024*

- Designed end-to-end scalable enterprise workflow engine on Appian, integrating Microsoft Graph API to automate task creation and allocation from Outlook emails, reducing time spent on task management by 85% and improving response times by 45%.
- Engineered and optimized a normalized MariaDB database schema and implemented an intelligent task allocation mechanism, enabling real-time tracking and visibility for 400+ monthly operational tasks via dashboards.
- Owned and developed a secure IAM framework implementing OAuth 2.0 and 2FA for payment workflows, incorporating immutable audit trails to ensure data integrity and 100% compliance with financial risk standards.
- Collaborated cross-functionally with 9 business groups to revamp the Service Outsourcing Request Approval Process, applying Agile and SDLC principles, cutting turnaround time by 40% and manual effort by 75%.
- Standardized integration patterns by building reusable Java components and RESTful API wrappers to handle JSON parsing and HTTP request handling, significantly reducing technical debt and accelerating development cycles.
- Delivered an RPA solution using Blue Prism to automate the reporting process for the Consumer, Wholesale, and Markets divisions at Barclays, reducing costs by 14 FTEs through enhanced data storage management, process scheduling, and streamlined workflow automation.
- Strengthened Level 3 support for large enterprise codebases, conducting code reviews, root-cause analysis, and safe production updates to maintain uptime and system reliability; partnered with QA and UAT teams to define test scenarios for complex workflows, ensuring reliable releases across multiple environments.

PROJECTS

AI Researcher - Multi-Agent Research Platform | Agentic AI, RAG, MLOps - *Link to project*

- Developed an AI system using LangGraph and GPT-5 to orchestrate four specialized agents, integrated ChromaDB vector database for semantic search and multi-source RAG retrieval; reduced information retrieval time and generated 6-8 page research reports with automatic citations.
- Deployed FastAPI backend with WebSocket streaming and Next.js 14 (TypeScript, Tailwind) frontend to AWS ECS Fargate via Terraform IaC (multi-AZ auto-scaling, ALB, RDS, Secrets Manager); built CI/CD pipeline with GitHub Actions, Docker 3-stage builds and pytest/integration tests.

Distributed Transaction Processing System | Go, Distributed Systems - *Link to project*

- Architected a transaction processing system using Multi-Paxos and Two-Phase Commit (2PC) protocols, processing 9000+ accounts across 3 sharded clusters with write-ahead logging for atomic rollback and resharding to reduce cross-shard transaction overhead.
- Built a fault-tolerant banking application with 9-node replication, implementing locking, leader election, and failure recovery to ensure ACID properties across concurrent transactions, achieving 150 txn/sec throughput and 100% transaction success rate.

GenUI - Wireframe to Code Converter | Generative AI, LLM, Full-Stack - *Link to project*

- Delivered a full-stack GenAI application using React, Flask RESTful APIs with CORS, Gemini Flash multimodal LLM and Pillow image processing to transform wireframes into HTML/CSS. Designed secure prompt engineering pipelines and real-time previews, reducing prototyping time by 70%.
- Implemented a scalable microservices architecture using Docker and Nginx, orchestrating containerized deployments on Render. Established comprehensive observability through structured logging, request tracking, and health monitoring endpoints to ensure high system availability.

Mobility Based Resilience Analysis | Geospatial Analytics, Time Series, Data Science - *Link to project*

- Engineered a large-scale ETL pipeline using Python to process 5.8+ million mobility records, implementing the resilience triangle methodology, time series analysis and statistical modeling to quantify community disaster recovery patterns.
- Constructed interactive Streamlit dashboard with Plotly visualizations to analyze and compare resilience metrics and temporal mobility trends across 309 Census Block Groups and provide actionable insights.

CERTIFICATIONS

AWS Certified Cloud Practitioner

SKILLS

Programming Languages: Python, Java, JavaScript, Go
Database Management: PostgreSQL, MySQL, MongoDB
Frameworks & Libraries: Flask, PyTorch, Node.js, React.js, NumPy, Pandas, Matplotlib
Tools & Technologies: AWS, GCP, Docker, Kubernetes, Git, Figma