Prajjwal Mishra

San Jose, California | 716-415-0089 | *Email* | *LinkedIn* | *Portfolio* | *Github*

EDUCATION

University at Buffalo | *MS in Computer Science and Engineering (AI/ML)* | *CGPA: 3.6/4.0*   Aug 2024 – Dec 2025
VIT University | *B.Tech, Electronics and Computer Engineering* | *CGPA: 3.8/4.0*   Jun 2017 – Jul 2021

EXPERIENCE

Graduate Research Assistant | *University at Buffalo*   Aug 2024 – Present
- Built and maintained backend Python systems following secure coding patterns, accessibility considerations, and engineering best practices.
- Developed an agentic AI-powered adaptive web extraction system using Playwright, LangChain, and large language models, resilient to dynamic DOM changes, reducing manual effort by 60%.
- Co-developed AutoRSR, an ML inference pipeline with production-grade logging and telemetry, reducing evaluation time by 60% and increasing clinical screening throughput.
- Participated in structured code reviews, applied peer feedback, and aligned implementations with team coding standards and design guidelines.
- Integrated observability signals including logs and metrics to support troubleshooting, availability monitoring, and performance analysis.

Software Engineer | *UnitedHealth Group*   Sep 2021 – Aug 2024
- Architected and engineered cloud-native backend and RESTful microservices in Java, Spring Boot, and Python, contributing to the modernization of 15+ legacy healthcare systems into a scalable microservices platform serving 200K+ members.
- Led on-premises database to AWS Kafka migration, designing secure ingestion pipelines to stream transactional and reference data into cloud-native services, improving data freshness, scalability, and system reliability.
- Optimized high-throughput backend services by tuning thread pools, connection pooling, Redis caching, and database queries, reducing P95 API latency by 35% while sustaining 3.5K requests per second at peak load.
- Built centralized observability and monitoring using ELK Stack, Splunk, Grafana, and Snowflake, ingesting over two million daily events, improving MTTD by 40% and enabling real-time alerting for 99.9% SLA compliance.
- Delivered HIPAA-compliant features including provider search with Elasticsearch achieving sub-200ms P99 latency on over 500K records, secure APIs, and PostgreSQL with row-level security, partnering closely with security and compliance teams.
- Owned production reliability through CI/CD automation using Jenkins and GitHub and on-call rotations, maintaining 99.9% uptime and under two-hour MTTR; recognized with a Bravo Award for Kafka migration contributions.

Software Engineer | *Deloitte*   Jun 2021 – Sep 2021
- Developed enterprise full-stack applications using Java, Spring Boot, Angular, and Next.js with a focus on performance, security, and maintainability.
- Designed role-based backend APIs using NestJS and PostgreSQL, aligning implementations with internal privacy and compliance requirements.
- Created Prometheus-based monitoring and alerting pipelines and integrated automated incident workflows with ServiceNow, improving system visibility, on-call response, and operational readiness.
- Participated in agile ceremonies, authored low-level design documentation, and conducted peer code reviews to ensure adherence to engineering standards.

Software Engineering Intern | *KPMG*   Jan 2021 – Jun 2021
- Built a secure internal risk assessment and vendor compliance platform using Python, Flask, React, and MongoDB.
- Automated CI/CD pipelines via Azure DevOps, reducing deployment latency through parallel execution and build caching.
- Developed secure REST APIs and optimized database operations to handle increased load while preserving auditability.
- Automated compliance workflows, reducing manual auditing time by 70% and improving assessment throughput.

TECHNICAL SKILLS

Languages Python, Java, C++, C#, JavaScript/TypeScript, SQL, HTML/CSS, Bash
Frontend React, Angular, Next.js, HTML5/CSS3, JavaScript (ES6+)
Backend REST APIs, Spring Boot, Flask, FastAPI, Microservices, Secure API Design
Databases MySQL, PostgreSQL, MongoDB, Snowflake, Hive, Elasticsearch, Redis, Cassandra
Data Engineering Apache Spark (Batch + Streaming), Kafka, Hadoop, Airflow, ELK Stack, ETL/ELT Pipelines
Cloud/DevOps AWS, Azure, Kubernetes, Docker, Jenkins, Git, Linux, Terraform, Prometheus, Grafana, ServiceNow
AI/ML PyTorch, TensorFlow, scikit-learn, Hugging Face Transformers, LangChain, LLMs, RAG Pipelines
Concepts OOP, Distributed Systems, Secure Coding Practices, SDLC, Agile/Scrum, Design Patterns

PROJECTS

KinesisFleet Streaming Analytics | *React, Redis, Python, Flask, AWS S3, Druid, Kinesis*   Jul 2025 – Oct 2025
- Built a real-time telemetry platform supporting up to 10,000 concurrent vehicles with low-latency updates.
- Implemented reliable ingestion pipelines and scheduled data synchronization to improve consistency and performance.
- Used Kinesis and Druid for high-throughput streaming analytics with long-term archival to S3 and Glacier.

WebAutoDash | *TypeScript, React, Tailwind CSS, Python, Playwright, Docker, MySQL*   Aug 2024 – Nov 2025
- Developed an AI-powered automation dashboard focused on reliability, secure execution, and maintainable workflows, reducing manual effort by 60%.