

# NAITIK SHAH

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## EDUCATION

### Oregon State University, Corvallis, OR

April 2024 – March 2026

Master of Engineering in Computer Science

**Coursework:** ML, DL, Computer Graphics, Scientific Visualization, Distributed Systems, Computer Architecture

### University Of Mumbai, India

July 2018 – May 2022

Bachelor of Engineering in Computer Engineering

**Coursework:** DSA, OS, CN, AI/ML, Mobile App Development, Big Data Analytics

## TECHNICAL SKILLS

**Languages:** Python, Go, Java, C++, JavaScript, SQL

**Backend:** Spring Boot, Node.js, Express, Flask

**Distributed Systems:** Kafka, PyFlink, Avro, Docker, Kubernetes, Redis, gRPC

**ML/AI:** PyTorch, TensorFlow, River, LLM-based pipelines

**Parallel/GPU:** CUDA, OpenMP, OpenCL, MPI

**Cloud & DevOps:** AWS, GitHub Actions, Jenkins

**Databases:** PostgreSQL, TimescaleDB, MySQL, MongoDB

**Frontend:** React, Angular, LWC

## PROFESSIONAL EXPERIENCE

### Student Software Developer

December 2024 - Present

#### Oregon State University, Corvallis, USA

- Built modular **Salesforce LWC** interfaces using reactive getters, wire adapters, and custom pub/sub events to support complex multi-participant intake flows.
- Developed scalable **Apex controllers** using fflib service/selector layers, typed DTOs, and bulkified DML to process hierarchical guardian-participant records.
- Designed **schema-driven JSON payloads** with server-side validation pipelines, reducing intake submission errors by **20%** and improving data consistency.
- Automated guardian-participant relationship creation using PMM objects, dependency injection, and optimized SOQL, increasing onboarding efficiency.
- Debugged production issues using **Apex heap analysis, LDS profiling, and async orchestration logs**, improving system reliability and reducing latency.

### Software Engineer

August 2022 – July 2023

#### Hexaware Technologies Pvt. Ltd., Mumbai, India

- Developed enterprise backend services using **Java, Spring Boot, and Hibernate** with a clean layered architecture (Controller → Service → DAO), achieving **95% JUnit/Mockito coverage**.
- Optimized REST APIs with **Redis caching, batching, lazy loading, pagination, and HikariCP pooling**, reducing latency by **30%**.
- Integrated microservices using **Feign clients, JSON schema validation, and Hystrix circuit breakers** for cross-service resilience.
- Built responsive UIs with **Angular + RxJS**, improving usability and increasing client adoption by **20%**.
- Managed CI/CD deployments using **Jenkins and GitLab CI**; contributed to Agile sprints, code reviews, and iterative feature releases.

### Software Developer Intern

October 2019 – September 2020

#### Orno Infosys India, Mumbai, India

- Built a web-based payroll & HR automation system using **Java, JSP/Servlets, and MySQL**, reducing manual reporting overhead for operations teams.
- Implemented role-based authentication, salary computation modules, and financial report exports using **modular MVC architecture**.
- Enhanced UI usability using **JavaScript + Bootstrap**, improving internal user adoption by **15%**.
- Performed end-to-end debugging and QA using **Eclipse IDE, SQL profiling, and log-based diagnostics** to ensure stable production releases.

## PROJECTS

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### CalSync AI - Intelligent Calendar Automation System (Go, Python, JS, Docker, LLM)

November 2025

- Built a **local-first LLM productivity system** that integrates with **Google Calendar** to auto-generate **personalized learning plans** and optimized schedules.
- Designed a **modular microservice architecture** using **Go (backend)**, **Python (LLM engine)**, and a **JavaScript frontend**, fully **containerized with Docker**.
- Implemented a secure **Google OAuth 2.0 flow**, enabling users to connect their own **Google Cloud credentials** and sync events through custom **REST APIs**.
- Developed an intelligent **scheduling engine** that performs **availability analysis**, proposes **conflict-free schedules**, and updates calendars dynamically.
- Delivered an **end-to-end system** covering **frontend UX, backend API design, OAuth integration, and cross-service communication**.

### Real-Time System Monitoring (Kafka, PyFlink, TimescaleDB, Docker)

September 2025

- Built a **real-time monitoring pipeline** using Kafka, Docker, and PostgreSQL (TimescaleDB) to stream, store, and query high-volume system metrics.
- Developed **PyFlink streaming jobs** for feature engineering and **real-time anomaly detection** using rolling z-scores, EWMA, and online ML models (River, ARIMA, LSTM).
- Implemented **schema registry (Avro)** and alerting workflows (Slack) to ensure reliable data pipelines and rapid incident response.
- Gained hands-on experience in distributed systems, real-time data engineering, aligning with modern cloud and SRE infrastructure roles.

### Cryo-EM Visualization Analysis (OpenGL, C++, ParaView)

December 2024

- Built pipelines for **GPU-accelerated visualization** of Cryo-EM datasets using **Python, C++, and OpenGL**.
- Implemented **Contour Line Visualization and Morse-Smale Segmentation** with ParaView, cutting computation time by **95%**.
- Applied **topological data analysis** (persistence homology) for feature extraction, highlighting expertise in **parallel computing** and **scientific visualization**.

### AUGMENTED REALITY BASED MENU APPLICATION (Unity, Vuforia)

January 2022

- Designed and implemented an augmented reality-based application using **Unity Engine** and **Vuforia SDK**, enabling marker-based tracking to seamlessly integrate **3D virtual models** of food items into real-world environments for enhanced menu visualization.
- Published research in International Research Journal of Engineering and Technology. ([Link](#))

## LEADERSHIP & ACTIVITIES

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- Organized **technical workshops** as part of IEEE Student Branch, promoting collaboration and innovation.
- Mentored undergraduates in algorithms, Python, and data analysis.
- Conducted peer resume reviews and mock interviews.