NAITIK SHAH

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EDUCATION

Oregon State University, Corvallis, OR *April 2024 – December 2025*
Master of Engineering in Computer Science
Coursework: Machine Learning, Deep Learning, Advanced Computer Graphics, Scientific Visualization, Computer Architecture

University Of Mumbai, India *July 2018 – May 2022*
Bachelor of Engineering in Computer Engineering
Coursework: Data Structures & Algorithms, Operating Systems, Computer Networks, AI/ML, Big Data Analytics, Mobile App Development

TECHNICAL SKILLS

Languages: Python, Java, C++, JavaScript, SQL, HTML, CSS
Frameworks & Libraries: React, Node.js, Spring Boot, PyTorch, TensorFlow, Pandas, NumPy, scikit-learn, River (online ML), OpenGL
Data & Cloud Infrastructure: Kafka, Flink, PostgreSQL (TimescaleDB), AWS, Docker, Kubernetes, CI/CD pipelines
Databases: MySQL, MongoDB, DB2
Specialties: Distributed Systems, Real-Time Data Engineering, API Development (REST, GraphQL), Parallel & GPU Programming (CUDA, OpenCL, MPI), Machine Learning, Scientific & Data Visualization

PROFESSIONAL EXPERIENCE

Student Software Developer *December 2024 - Present*
Oregon State University, Corvallis, USA
- Built **Salesforce Lightning Web Components (LWC) and Apex controllers** to handle **multi-participant intake forms**, improving scalability and data accuracy.
- Designed **JSON-based backend processing with validation**, reducing data entry errors by **20%**.
- Automated workflow logic for guardian/participant relationships, improving **operational efficiency** and **system compatibility**.
- Collaborated with cross-functional teams, contributing to design reviews, debugging, and documentation.

Software Engineer *August 2022 – July 2023*
Hexaware Technologies Pvt. Ltd., Mumbai, India
- Developed enterprise applications using **Java, Spring Boot, and Hibernate**, achieving **95% code coverage** via comprehensive unit testing.
- Reduced application response time by **30%** through scalable server-side optimization.
- Built responsive UIs using **Angular, HTML, CSS, JavaScript**, increasing client adoption by **20%**.
- Integrated front-end with RESTful APIs, ensuring seamless system communication.
- Participated in **Agile ceremonies, peer code reviews, and CI/CD deployments**.

Software Developer Intern *October 2019 – September 2020*
Orno Infosys India, Mumbai, India
- Developed a **web-based payroll and management system**, automating reporting and payment processes, boosting efficiency.
- Improved user adoption by **15%** through usability-driven UI design.
- Conducted debugging and testing with Eclipse IDE, ensuring maintainable, production-ready code.

PROJECTS

Real-Time System Monitoring with AI Prediction *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, and AI-driven observability, aligning with modern cloud and SRE infrastructure roles.

CRYO-EM VISUALIZATION ANALYSIS *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 *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

- Organized **technical workshops** as part of IEEE Student Branch, promoting collaboration and innovation.
- Mentored undergraduates in coding and data analysis, fostering teamwork and technical growth.