

Muskaan

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EDUCATION

Master of Science, Computer Engineering

Arizona State University

Aug 2024 – May 2026

Tempe, Arizona

Bachelor of Technology, Computer Science and Engineering

Vellore Institute of Technology

Sept 2020 – May 2024

Vellore, India

SKILLS

Programming Languages: Python, C++, Java, JavaScript, SQL, R, Bash, MATLAB

Systems & Software Engineering: Data Structures, Algorithms, Client-Server Architecture, Concurrent Processing Concepts, Distributed Systems Fundamentals, Secure Software Design Principles, Performance Optimization

Cloud & Infrastructure: Linux, AWS (EC2, S3), Azure, Docker

Databases & Data Systems: MySQL, PostgreSQL, MongoDB, Data Modeling, Query Optimization, ETL Pipelines

Tools & Development: Git, GitHub, CI/CD, Agile (Scrum), REST APIs, Testing, Debugging, Code Reviews

Data & Analytics: Pandas, NumPy, Matplotlib, Power BI, Statistical Modeling, Machine Learning Fundamentals

PROFESSIONAL EXPERIENCE

Graduate Research Assistant – Software / Data Systems Engineering

Arizona State University, Global Institute of Sustainability & Innovation

Oct 2025 – Present

Arizona, USA

- Developed automated distributed data collection services using Python, Flask, and REST APIs enabling reliable real-time ingestion of environmental datasets.
- Engineered backend ETL workflows using Pandas, NumPy, and SQLAlchemy supporting large-scale data transformation across distributed research database systems.
- Designed scalable database architectures improving query performance and data retrieval latency for high-volume environmental datasets.
- Built monitoring dashboards using Power BI and Matplotlib enabling real-time system observability and performance tracking.
- Applied secure data handling and access control concepts for sensitive environmental and infrastructure datasets.
- Collaborated in Agile environment using Git for version control, code reviews, and reproducible pipeline deployments.

Frontend Software Engineering Intern

AssetPlus Consulting

Feb 2024 – May 2024

Noida, India

- Developed responsive web applications using React.js, JavaScript, HTML, and CSS improving application performance and cross-platform compatibility.
- Designed reusable UI components and modular frontend architecture supporting scalable enterprise dashboards for 200+ users.
- Optimized frontend performance using efficient API consumption, state management improvements, and lazy loading techniques reducing latency by ~25%.
- Integrated REST APIs and JSON data pipelines ensuring reliable client-server communication and data consistency.
- Participated in Agile SDLC including sprint planning, debugging sessions, code reviews, and production deployment support.

IoT Data Analysis Intern

Mutelcor GmbH

May 2023 – Jul 2023

Delhi, India

- Built scalable data pipelines processing daily IoT sensor readings supporting real-time monitoring and analytics workflows.
- Developed Python-based analytics and ML models for anomaly detection and predictive device failure analysis improving system reliability.
- Designed automated monitoring dashboards and alerting systems enabling infrastructure monitoring and operational insights.
- Performed end-to-end testing, debugging, and QA validation across IoT devices ensuring data integrity and production stability.

PROJECTS

ServiSecure: Automated Alert System for Vehicle Servicing

Jan 2025 – Mar 2025

- Built automated vehicle service monitoring system using Python backend and Twilio API integration for real-time SMS notifications.
- Implemented computer vision pipeline using OpenCV and Tesseract OCR for license plate recognition and validation.
- Designed MySQL relational database supporting transactional vehicle service lifecycle tracking.
- Implemented modular backend services following client-server design architecture.