

AAYUSH MODI

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EDUCATION

University of Washington, Tacoma

Tacoma, WA

Master of Science in Computer Science & Systems

Sept 2025 – Dec 2026

- **Relevant Coursework:** Applied Distributed Computing, Advanced Algorithms, Wireless Systems & Security.

Drs. Kiran & Pallavi Patel Global University (KPGU)

Vadodara, India

Bachelor of Engineering in Computer Science & Engineering | GPA: 3.8/4.0

Aug 2021 – May 2025

- **Relevant Coursework:** Operating Systems, Database Management Systems (DBMS), Object-Oriented Programming (OOP), Computer Networks, Data Structures & Algorithms.

SKILLS

Languages: C++, Python, C, SQL, Java (Basic), JavaScript, HTML/CSS

Infrastructure: Linux/Unix, Git, Bash Scripting, Docker, Firebase, Google Cloud APIs

Libraries: Flask, FastAPI, React.js, Next.js, TensorFlow, Scikit-learn, OpenCV

Soft Skills: Resource Optimization, Strategic Planning, Cross-Functional Collaboration, Crisis Management, Data-Driven Decision Making

Certifications: NPTEL Cloud Computing, NPTEL Machine Learning, SAP Certified Data Analyst

PUBLICATIONS & RESEARCH

From Alt-text to Real Context: Revolutionizing Image Captioning using LLMs

Jan 2025

Published in the International Journal of Scientific Research in Computer Science (IJSRCSEIT)

- Engineered a multimodal backend utilizing **Llama 3.2 Vision** to generate context-aware metadata for complex image datasets.
- Optimized pre-processing pipelines using **OpenCV** and Pandas, ensuring high-throughput handling of image data for accessibility applications.

EXPERIENCE

MaMo TechnoLabs LLP (mamotechnolabs.com)

Vadodara, India

Software Engineer Intern (AI/ML Intern)

Jan 2025 – Apr 2025

- Optimized backend deployment pipelines using TensorFlow, **reducing inference latency by 30%** to support high-traffic real-time usage.
- Engineered a scalable Progressive Web Application (PWA) backend, handling concurrent API integrations with Google Gemini for real-time data processing.
- Performed database interactions & multilingual support systems using Firebase, improving user retention metrics by 40%.

Edunet Foundation (edunetfoundation.com)

Vadodara, India

Data Engineer Intern

Nov 2024 – May 2025

- Developed a desktop application with an integrated automated pipeline, handling data ingestion and expense categorization for large datasets with 85% accuracy.
- Implemented anomaly detection algorithms (Isolation Forest) to identify outliers in financial data, improving reporting efficiency by 45%.
- Designed automated data export features (Excel integration) to streamline downstream business reporting.

AcmeGrade (acmegrade.com)

Remote

Cyber Security Intern

Nov 2023 – Jan 2024

- Configured virtualized security labs using VMware to perform network traffic analysis and vulnerability assessments.
- Analyzed packet-level data using Wireshark to identify network bottlenecks and security threats.

PROJECTS

User Profiling Data Infrastructure (Facebook) | *GitHub Repository*

Sept 2025 – Dec 2025

- Engineered a data processing pipeline for 9,500 user profiles, transforming sparse relational "Like" data into TF-IDF vector representations.
- **Infrastructure Management:** Provisioned and managed the team's **Linux VM** environment, writing scripts for dependency management and automated evaluation to ensure robust weekly testing.

GreenHealth Scalable Web System | *GitHub Repository*

Feb 2025 – May 2025

- Architected a mobile-first web application featuring real-time image processing and scalable database triggers.
- Optimized frontend and backend communication to handle concurrent user requests for disease diagnosis across diverse user groups.

LEADERSHIP

Indian Student Association (ISA), UW Tacoma

Oct 2025 – Present

Secretary

- Orchestrated the "Spark & Glow" event for 80+ attendees, managing budgets and vendor logistics to boost student engagement by 50%.