Dhaval Pandit

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EDUCATION

University of Texas at Arlington — Arlington, TX
Master of Science in Computer Science — *Jan 2024 – Jan 2026*

Parul University — Vadodara, India
Bachelor of Engineering in Information Technology — *Jul 2020 – Jun 2023*

EXPERIENCE

Graduate Research Assistant — Jan 2025 – Dec 2025
RAID Lab, University of Texas at Arlington — *Arlington, TX*

- Owned end-to-end design and deployment of an RFID-based access control system, achieving 99.7% read accuracy and sub-250ms latency under peak load of 1,000+ daily entries
- Engineered a real-time conveyor belt vision system using Python and OpenCV, improving object detection accuracy by 35% while increasing throughput by 25%
- Integrated hardware readers, Flask-based backend services, and Streamlit dashboards, reducing manual monitoring and operator intervention by 50%
- Identified and mitigated reliability issues caused by noisy tag reads, variable lighting, and hardware inconsistency to improve system stability

Software Engineer — Nov 2022 – Nov 2023
Vistaura — *Vadodara, India*

- Designed and deployed computer vision detection systems for real-world environments, optimizing for latency, robustness, and accuracy under variable conditions
- Automated regression and end-to-end testing pipelines using Python and Selenium, reducing manual validation effort by 40%
- Optimized OpenCV-based inference pipelines to improve real-time performance and stability in production deployments
- Streamlined AWS-based storage workflows and backend API validation to support scalable data ingestion

PROJECTS

Fleet Vision – Vehicle Overspeed Detection System | *Python, OpenCV, Deep Learning*

- Architected and implemented a real-time traffic monitoring system processing 20+ concurrent live video feeds with 95%+ detection accuracy
- Reduced false positives by 30% by improving vehicle tracking and speed estimation logic
- Built an automated alerting pipeline that reduced response time by 40% and supported documentation for academic and applied research use

TECHNICAL SKILLS

Languages: Python (primary), SQL
Computer Vision & ML: OpenCV, Deep Learning, Model Optimization, Real-time Inference
Frameworks: PyTorch, Scikit-learn
Systems & Cloud: Flask, AWS, Docker
Tools: Git, Selenium, Postman
Concepts: System Integration, Latency Optimization, Reliability, SDLC, Data Structures