Meet Pandya

Computer Vision Engineer

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EXPERTISE

Programming
Python, C++, CUDA, SQL, Shell Scripting

Libraries
PyTorch, OpenCV, NumPy, Pandas

Vision
Image Registration, Feature Matching, Stereo Calibration, Depth Estimation, Point Clouds, Anomaly Detection

ML Engineering
Few-Shot Learning, Domain Adaptation, Model Deployment

EDUCATION

M.Tech. Software Systems
DA-IICT | 2019 - 2021

B.Tech. Computer Engineering
Ganpat University | 2015 - 2019

PUBLICATIONS

DepScan: 3D Under Vehicle Scanning System
AIML Systems 2023

Segregating and Recognizing Human Actions from Video Footages Using LRCN Technique
AMLTA 2020

LEARNING

Deep Learning Specialization
DeepLearning.AI

Data Science Specialization
IBM

Summer School of AI
CV-IT, IIIT Hyderabad

30%	20%	90%
lower mosaic latency	better reference identification	few-shot accuracy

PROFILE

Computer Vision Engineer with 5+ years of experience building under-vehicle inspection systems in Python, C++, and CUDA. Combines image registration, anomaly detection, and 3D perception with model deployment and technical leadership. Delivered 30% lower mosaic generation latency and measurable improvements in reference identification and anomaly detection.

EXPERIENCE

Vehant Technologies Pvt. Ltd.

Computer Vision Engineer | Jun 2021 - Present

Technical lead for the DepScan Under-Vehicle Scanning System.

- Integrated improvements to the under-vehicle inspection pipeline, benchmarked accuracy, and used failure-case analysis to refine models and algorithms.
- Optimized shift detection and image mosaicing for under-vehicle inspection, improving image sharpness and reducing mosaic generation latency by **30%**.
- Integrated stereo calibration and rectification with **sub-pixel reprojection error**; refined depth estimation and point clouds to achieve depth error within **1% of operating range**.
- Integrated learned feature detection and matching for vehicle classification and reference retrieval, improving reference identification by **20%**.
- Improved image registration and depth alignment for under-vehicle change detection, increasing anomaly detection rate by 10%.
- Developed an incremental few-shot vehicle classifier, achieving **90% accuracy** on new categories using **10 samples per category**.
- Reduced false positives by **25%** through one-class anomaly detection and by **15%** through background removal trained using SAM-generated labels.
- Built a framework-agnostic Python inference server, enabling **5x faster model deployment**.
- Coordinated ML/CV recruitment, conducted technical evaluations, and mentored engineers through onboarding and model integration.

DA-IICT | Teaching Assistant

Aug 2019 - May 2021

Assisted with labs, evaluations, and student mentoring for Computer Architecture and Linux Systems.