

Roubish Kumar Pushkar

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Professional Summary

AI Engineer — 3+ Years Experience Expert in Machine Learning, Deep Learning, and Data Science. Proficient in Python, software development, OOP, and functional programming. Passionate about AI innovation and leading end-to-end AI solutions in logistics, security, and transportation.

Skills

Python, TensorFlow, PyTorch, OCR, CNNs, ANN, Object Detection, Semantic Segmentation, Image Classification, Deep Learning, Software Development, NVIDIA Jetson, Edge AI, DeepStream SDK, OpenCV, YOLO, SSD, Computer Vision, MySQL/NoSQL, GCP, GCF, AWS, FFmpeg, GitHub, Docker.

Experience

Assert AI

Responsibilities

*Bengaluru, India
September 2021 – Present*

Deployment of Large-Scale Computer Vision Projects (Ongoing).

- Code Development: Design and implement scalable computer vision solutions, collaborating with teams to meet project requirements.
- Model Training Optimization: Select, train, and fine-tune computer vision models (CNNs, YOLO, SSD) for high accuracy and efficiency.
- Software Maintenance: Maintain, debug, and enhance vision-based applications for reliability and adaptability.
- Hardware Debugging: Diagnose and optimize edge devices (NVIDIA Jetson, GPU/CPU, memory, power, connectivity) for stable operations.
- PoC Development: Create and test innovative Proof of Concepts (PoCs) to solve real-world AI and computer vision challenges.

Projects

Automatic Number Plate Recognition Project

- Designed and developed an end-to-end ANPR system by integrating PaddleOCR with DeepStream for real-time license plate detection.
- Optimized accuracy and reduced processing time, ensuring efficient recognition in various lighting and weather conditions.
- Conducted comprehensive testing and debugging for seamless deployment in real-world environments.

Turnaround Time Project - Person Waiting Time Measurement

- Implemented video analytics using DeepStream Python to measure customer waiting and service times at retail stores.
- Provided data-driven insights to optimize workflow efficiency and enhance customer experience.
- Designed a scalable and automated monitoring system for continuous improvement in service management.

Real-Time Warehouse Surveillance Monitoring

- Developed custom AI models to monitor warehouse operations, including shutter status tracking and sack counting for logistics efficiency.
- Implemented vehicle entry monitoring, person intrusion detection (especially at night), and guard attendance tracking to enhance warehouse security.
- Integrated real-time alerts and visual dashboards to provide actionable insights for warehouse management.

Industrial safety and surveillance

- Designed AI-powered safety solutions to detect helmet and vest violations, hand glove violations, forklift overspeeding, and illegal vehicle parking.
- Developed fire and smoke detection algorithms for early hazard identification and prevention.
- Deployed edge-based models on NVIDIA Jetson devices for real-time processing, ensuring workplace compliance and accident prevention.

Mumbai Metro AI Surveillance – Padecco India

- Deployed AI-based surveillance across 80 metro stations (15–20 cameras each) to analyze crowd and queue behavior using 7 days of video data per camera.
- Use Cases: Gender detection (YOLOv8), head count, queue length monitoring, and peak-hour crowd analysis.
- Optimization: Used DeepStream 6.1.1/6.2 and NVIDIA GPUs (A6000, RTX 4090/3090) for high-speed batch inference.
- Automation: Created shell scripts to handle video conversion, inference, and report generation.
- Reporting: Converted videos to MP4 using FFmpeg; stored and analyzed results in Excel format.
- Teamwork: Worked in an 8-member core team with 2 support members to deliver the full pipeline.
- Tools Tech: YOLOv5 CrowdHuman, YOLOv8s, OpenCV, DeepStream, GStreamer, Linux, Pandas, FFmpeg.

Educational Qualifications

MCA
REVA UNIVERSITY, Bengaluru

Jun 2017 - Mar 2021