

# Nikhil Rathore

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## EDUCATION

- National Institute Of Technology** Warangal, India  
• *Master of Computer Application* July 2018 - June 2021  
*Courses:* Operating Systems, Data Structures, Analysis Of Algorithms, Artificial Intelligence, Machine Learning, Networking, Databases

## SKILLS SUMMARY

- **Languages:** Python, Java , C++, JNI.
- **Deep Learning:** Pytorch, TensorFlow, Keras, HuggingFace Transformers.
- **Computer Vision:** OpenCV, NumPy, Scikit-learn, Person ReID, Multi-Object Tracking, Face Recognition, Pose Estimation, Object Detection, Object Segmentation.
- **Optimization & Hardware Acceleration:** ONNX, OpenVINO (FP32/INT8), TensorRT, CUDA, Post-Training Quantization (PTQ), Quantization-Aware Training (QAT), Latency/Memory Profiling.
- **Edge Deployment:** NVIDIA GPUs, Intel CPUs, ARM CPUs (Raspberry Pi 5, embedded targets), cross-platform model-algorithm co-optimization.
- **Infrastructure:** Docker, Linux, Git, AWS EC2, Flask, FaskAPI.
- **Specialization:** Computer Vision R&D, Person Re-Identification, Multi-Camera Tracking, Edge Deployment, Model Optimization.

## EXPERIENCE

- Magellanic Cloud Ltd** Hyderabad  
• *Software Engineer - Computer Vision & AI* Sept 2021 - Present
  - Initially joined IVIS International Pvt Ltd in Sept 2021, transferred to Parent Company in October 2024, continuing in the AI/ML Engineer Role.
  - Involved in the development and optimization of machine learning/deep learning models for a range of projects.
  - Developed real-time face recognition, people tracking, and frisking systems using deep learning and image processing.
  - Built and optimized sample apps and POCs across Python, C++, and Java for testing and deployment.
  - Integrated C++ inference logic with Java apps via JNI, ensuring fast and scalable backend processing.
  - Designed internal tools for automated video clip handling, model inference, and system health checks.
  - Contributed to reducing false alerts in video analytics and maintaining rule-based logic across 100+ site cameras.
  - Led efforts to improve client dashboards, systematically tracking and analyzing daily events, and generating detailed monthly reports to enhance system accuracy.
- IVIS International Private Limited** Hyderabad  
• *Software Developer Intern* Feb 2021 - Aug 2021
  - Selected through campus placement for a technical internship during final semester.
  - Worked on Attire classification Model.

## PROJECTS

- Built a gate-level people counter using object tracking and re-identification. Delivered real-time event visualization with a lightweight web client.
- Successfully implemented multi-object tracking algorithms, leading to more accurate analysis of object movement patterns for light weight device.
- Research and implements an Arcface Recognition system working on 70 lacs Registered data for banking business projects.
- Build Face Quality Model for filtering good and bad face images for Face Registration.
- Engineered a Frisking Detection System to evaluate security frisking quality using human pose detection and rule-based evaluation.
- Developed a web tool to run and monitor AI inference on server video data. Enabled selection of models, classes, sites, and date ranges through an interactive interface.
- Implemented motion object detection algorithm for custom Int-8 IR Person-Vehicle Model for Monitoring sites.
- Build Face Quality Model to filter good and bad face images for Face Registration.
- Contributed to improving customer experiences through improved ATM cleanliness and safety measures.
- Worked on image processing solution for camera Tampering, and Gender Detection Model, Vehicle Detection Model, Weapon detection, Object Color prediction model, no video detection, image quality enhancement, and staff detection.

## ACHIEVEMENTS

- Secure 256 AIR in **NIMCET MCA Entrance Exam** (2018).
- Secure 27 AIR in **VIT MCA Entrance Exam** (2018).
- Certified in **Problem Solving by HackerRank**.