Jayant Meshram

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EDUCATION

Vishwakarma Institute of Technology, Pune **May, 2023**
Bachelor of Technology, Electronics and Telecommunications *Pune, MH*
- 8.62/10.0 CGPA

WORK EXPERIENCE

Rootally AI. **Feb. 2023 – Aug. 2023**
Computer Vision Intern *Remote, Singapore*
- Designed and implemented over 35 **algorithms for vision-based tracking** exercises particularly focused on patient and hospital clientele. (*eg. planks, knee-bend, squats etc.*)
- Worked on **2-D and 3-D pose estimation** and cooperate this data to develop efficient tracking algorithms.
- Identified incorrect posture/movements and provided real-time feedback to correct pose during exercise.
- Collaborated with cross-functional teams to implement and update exercises on Android and iOS platforms.

Notiontag Technologies **April 2022 – Nov. 2022**
Image Processing Intern *Remote*
- Developed epipolar geometry-based estimation for **Euler angles** for person's face in real-time.
- Trained a **CNN** for **detection of Moire's pattern** using wavelet composition for identification of spoofing as solution of complex image editing fraudulent practices.

Meliorist Developers **Dec. 2021 – April 2022**
Machine Learning Intern *Remote*
- Assisted in implementation of an RTSP based CCTV surveillance monitoring system for a restaurant client.
- Collaborated with cross-functional teams to setup monitoring stream for detection and tracking with **re-identification** functionality using **YOLO**, **FastMOT** and **DeepSORT** Algorithms.

PROJECTS

Improving Scene Context Understanding through Multi-Modal Integration **Link**
- Implemented a novel caption-category integrated Scene understanding system using **InceptionV3, LSTM** (with beam search)**, and a LLM APIs** (**ChatGPT** API).
- Combined NLP and Computer Vision Techniques to produce richer result for scene information.
- Optimized **Places365CNN** and created new dataset for 30+ Indian Tailored categories.

Image Tampering Detection using ELA and Metadata Analysis **Link | Published Paper (IEEE INCET 23)**
- Created a multi-modal image forgery detection system which helps to authenticate the originality of an image.
- Analyzed images at different compression levels to **identify compression artifacts** caused by tampering.
- Trained a custom weather classifier with accuracy of 81.6% to categories among 4 categories.
- Using embedded **metadata information** (*eg. location and time*), cross validated weather depicted in image trained with databases containing historical weather data.

Ripeness Detector for Vegetables and Fruits **Link | Published Paper (IEEE CONIT 22)**
- Designed an Arduino based low-cost Ripeness Detector System based on Spectral Data.
- Trained **multi-class classifier** which predicts the ripeness of vegetables and fruits with accuracy of 88.23%.

POSITION OF RESPONSIBILITES & ACHIEVMENTS

- **Senior Technical Member** at The Robotics Forum – Mentored, Taught in Computer Vision/Image Processing Workshops; Played a contributing role to the successful completion of multiple computer vision projects.
- Placed **4th among 300+** teams in AgriML Competition.

SKILLS & INTERESTS

- **Skills:** *Programming* – C; C++; Python; JAVA; R; *Frameworks/Platforms* – OpenCV; Tensorflow; PyTorch; YOLO; CUDA; *Functional* – SQL; Linux; AWS; DOCKER; *Proficiency* – Machine Learning; Computer Vision; Image Processing; Object Detection, Recognition, Tracking; OCR, NLP, Model Optimization, Recommendation Systems
- **Interests:** teaching; content creation; gaming; writing; traveling; reading

RELEVANT CERTIFICATIONS

- **Coursera –** Machine Learning Specialization
- **Udemy –** Deep Learning Computer VisionTMM CNN, OpenCV, YOLO, SSD & GANs