Pranay Reddy Anthireddy

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EDUCATION

University of Massachusetts Amherst GPA: 3.76/4

- **Major:** MS, Computer Science *Expected December 2023*
- **Relevant Coursework:** Computer Vision, Distributed Operating Systems, Machine Learning, Intelligent Visual Computing, Systems for Data Science.
- **Responsibilities:** Graduate Teaching Assistant(Grader) for CS370 - Introduction to Computer Vision

Indian Institute of Information Technology, Design and Manufacturing, Jabalpur GPA: 3.34/4

- **Major:** B.Tech, Electronics and Communication Engineering *July 2022*
- **Relevant Coursework:** Probability & Random Processes, Image Processing, Digital Watermarking, Signals & Systems, Fundamentals of Robotics, Computer Networks, Data Structures and Algorithms.

WORK AND RESEARCH EXPERIENCE

Meta (formerly Facebook)

Graduate Student Researcher *Feb '23 - Current*

- Working with **Dr. Shane Moon** & **Aparajita Saraf** on enhancing IMU alignment with CLIP embedding space.
- Built an IMU summariser that projects the sensor data to the CLIP space and generates a summary of the video activity and answers questions based on the activity.

Carnegie Mellon University

Research Intern - Computer Vision *Sep '21 - Nov '22*

- Worked with **Dr. Chen Wang** and **Prof. Sebastian Scherer** at Airlab in Robotics Institute on Few Shot Object Detection and a physics based DL optimization library called PyPose (work has been **accepted at CVPR 2023**).
- Proposed a brand new few-shot object detection model free of fine-tuning and improved baseline by up to 60% (even higher than carefully fine-tuned models). Work has been **accepted at ECCV 2022**.

Indian School of Business, Hyderabad

Research Intern - Computer Vision *May '21 - Aug '22*

- Worked with **Dr. Sumeet Kumar** in finding product placements of various brands on YouTube-Kids videos.
- Generated three new datasets, established optimal accuracies using Supervised Contrastive Learning for the product identification task and created the pipeline for end-to-end ad recognition.

RESEARCH

[1] Wang, C., Gao, D., Xu, K., ...**Pranay Reddy**...,Scherer, S., **PyPose: A Library for Robot Learning with Physics-based Optimization.,** (CVPR 2023, Accepted) [**Link**]

[2] Bowen Li, Chen Wang, **Pranay Reddy**, Seungchan Kim, Sebastian Scherer, **"AirDet: Few-Shot Detection without Fine-tuning for Autonomous Exploration,"** (ECCV 2022, Accepted) [**Link**]

SKILLS

- **Frameworks and Libraries:** PyTorch, TensorFlow, OpenCV, Flask, Keras
- **Tools and Languages:** Python, C/C++, MATLAB, Git, Docker

ACHIEVEMENTS

- **Winner**: Seldonian ML Toolkit Competition [**Link**]

PROJECTS

- **PyPose**: An open-source library that connects classical robotics methods with modern learning based approaches. Contributed towards Adj, euler2SO3 functions. Currently under review at CVPR 2023. [**Link**]
- **Catheter Positioning Tool**: A positioning tool created using Semantic Segmentation to identify the nerve structure in Ultrasound Images based on U-Net architecture with a dice coefficient of 75%. [**Link**]
- **Digital Grading of Fruits**: Built a grader by extracting custom features using Image Processing techniques and trained them on Random Forest and XGBoost thereby achieving a validation accuracy of 99%. [**Link**]

VOLUNTEERING

- **Reviewer:** IEEE Robotics and Automation Letters (RA-L).