Jayant Sravan Tamarapalli

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Education

Carnegie Mellon University - School of Computer Science May 2021 – December 2022
Master of Computational Data Science - GPA: 4.16/4 *Pittsburgh, PA*
Relevant Coursework: Visual Learning, Deep Learning, ML for Robotics, Reinforcement Learning

Birla Institute of Technology and Science (BITS), Pilani August 2015 – May 2019
B.E. (Hons.) in Computer Science - CGPA: 9.75/10 - Class position: 4^{th}/750 students *Hyderabad, India*

Professional Experience

Amazon Science May, 2022 – August, 2022
Applied Scientist Intern *Seattle, WA*
- Worked on advertisement video generation for use in various Amazon consumer products.
- Explored open-domain multimodal video and text/audio explicit alignment using various vision and temporal transformers for video encoding along with language models like BERT, BART, and RoBERTa.

Microsoft R&D Pvt. Ltd. July, 2019 – August, 2021
Software Engineer *Hyderabad, India*
- Designed and implemented the Search Insights and Analytics framework for O365 Exchange Admin Center that enabled the admins of 1M+ tenants to make data-driven decisions that helped improve user search experience.
- Built machine learning models for Product Recommender System in the Microsoft Partner Co-sell website. This increased the user engagement on the website by 82% which translates to higher revenue for Microsoft through Co-sell.

Research Experience

Deep Full Body Control for Navigation and Manipulation October 2022 – December 2022
Carnegie Mellon University *Pittsburgh, PA*
- Trained robots to reach target points using a unified policy for manipulation and navigation with the help of curriculum learning. Worked with various types of robots like Humanoids, Stretch, and Fetch.

AI Guide Dog Capstone January 2022 – December 2022
Carnegie Mellon University *Pittsburgh, PA*
- Helping the blind community navigate in their environments using an AI powered computer vision mobile application that models how a sighted individual would navigate in the scenario.
- Utilized various transformer models to take the multimodal inputs from camera feed and live sensor data to predict the optimal direction in which the person should move.

Framework for Multimodal Attribution in Embodied AI (Paper) September 2022
Carnegie Mellon University *Pittsburgh, PA*
- Presented a framework for understanding multimodal attributions in Embodied AI tasks. The framework enables learning about dataset and modeling biases while training Embodied AI policies.
- Published in 'Progress and Challenges in Building Trustworthy Embodied AI' and '5th Robot Learning Workshop: Trustworthy Robotics' at NeurIPS 2022.

Domain Generalization using Image-Text Models (Website) January 2022 – April 2022
Carnegie Mellon University *Pittsburgh, PA*
- Leveraged Image-Text models trained vast amounts of unlabeled data on the internet to build image embeddings that generalize well to all domains under Prof. Eric Nyberg.
- Improved the zero shot (out-of-domain) average precision from 21.3% to 56.7% for classification task on PASCAL using a model trained on MS COCO.

Cervical Cancer detection on Pap-smear dataset using Object Detection August 2020
Microsoft R&D *Hyderabad, India*
- Developed a deep learning model to detect areas of interests in pap-smear slides using YOLO-v3 algorithm. It increased the Inter-observer Agreement (probability of two radiologists agreeing on the diagnosis) from 34% to 79%.

Skills

Programming: Python, C++, C#
Libraries and Frameworks: PyTorch, Huggingface, Numpy, IsaacGym, Pandas, NLTK, .NET, Azure, AWS, GCloud