

ANIRUDDHA MAHAPATRA

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Education

Carnegie Mellon University - School of Computer Science

Pittsburgh, PA

Master of Science in Computer Vision (Robotics Institute)

Dec 2023

Indian Institute of Technology

Roorkee, India

Bachelor of Technology in Computer Science | CGPA: 9.41/10.00 | Department Rank: 2/76

May 2020

Experience

Adobe Research

Bangalore, India

Research Associate 2

Aug 2020 – Aug 2022

- Developed a deep-learning algorithm for generating user-guided animated videos from a single still image for natural scenes; improved quality of generated animations by 8.5 % FVD compared to SOTA [Paper Link]
- Coordinated with Product and Engineering teams to deploy part of the above pipeline for Adobe Photoshop Elements application on Mac and Windows devices, taking just 10 seconds to generate 6 seconds 1080p animations
- Collaborated in a team of 6 to ideate and implement a solution to image outpainting in semantic label map paradigm; outperformed SOTA on Cityscapes and ADE20K-bedroom datasets by 28.7% and 33.9% FID respectively [Paper Link]
- Mentored undergraduate and PhD internship projects on conditional scene-graph expansion, context-aware object insertion, model quantization and human body and face motion transfer in videos

Adobe Research

Bangalore, India

Tech Intern BS

May 2019 – Jul 2019

- Empowered retail-store aggregate video analytics on edge-devices for Adobe Analytics by designing an end-to-end method for adaptive deep video compression and action recognition
- Collaborated in a team of 3 to architect lightweight action recognition models on compressed video representations
- Reduced the CPU and GPU memory requirement by upto 3x and 5.7x respectively for action recognition on standard video datasets like UCF101, MERL compared to SOTA models that operate on RGB videos [Report Link]

IBM Research

(Remote) Gurgaon, India

Research Intern

May 2018 - Jul 2018

- Evaluated the potential of Sentinel-1 Synthetic Aperture Radar (SAR) and Sentinel-2 optical imagery in crop identification for Indian region by training a multi-class classification algorithm based on the Support Vector Machine
- Validated the joint use of optical and radar imagery improves classification accuracy compared to their individual use by achieving a 5.3% and 4.9% gain in performance for both Kharif and Rabi crop respectively [Paper Link]

Publications

- Aniruddha Mahapatra**, and Kuldeep Kulkarni. “Controllable Animation of Fluid Elements in Still Images.” *In Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2022. [Paper Link]
- Bholeswar Khurana, Soumya Ranjan Dash, Abhishek Bhatia, **Aniruddha Mahapatra**, Hrituraj Singh, and Kuldeep Kulkarni. “Semie: Semantically-aware image extrapolation.” *In Proceedings of the IEEE/CVF International Conference on Computer Vision (ICCV)*, 2021. [Paper Link]
- Aniruddha Mahapatra**, and Biplab Banerjee. “Unsupervised Domain Adaptation for Remote Sensing Images Using Metric Learning and Correlation Alignment.” *In National Conference on Computer Vision, Pattern Recognition, Image Processing, and Graphics, (NCVPRIPG) 2019*. [Paper Link]
- Jitendra Singh, **Aniruddha Mahapatra**, Saurav Basu, and Biplab Banerjee. “Assessment of Sentinel-1 and Sentinel-2 satellite imagery for crop classification in indian region during Kharif and Rabi crop cycles.” *In IGARSS 2019-2019 IEEE International Geoscience and Remote Sensing Symposium, (IGARSS) 2019*. [Paper Link]

Skills

Programming Languages: *Advanced:* Python; *Intermediate:* C++

Developer Tools: *Advanced:* VS Code, Linux, Git; *Intermediate:* Vim, Docker

Frameworks/Libraries: *Advanced:* PyTorch, PyTorch Lightning, OpenCV; *Intermediate:* TensorFlow, CoreML, WinML