ANUBHAV
+1 240-467-7513 | anubhav@umd.edu | anubhav@linkedin | learn2phoenix.github.io

EDUCATION

University of Maryland, College Park, MD
Ph.D., Computer Science, Jan'23-Present

University of Maryland, College Park, MD
MS, Computer Science, Jan'21-Dec'22

Indian Institute of Technology (IIT), Delhi, India
Bachelor of Technology, Electrical Engineering (Minor: Computer Science)

EXPERIENCE

Research Assistant
Dept. of Computer Science, University of Maryland, College Park, Summer'21 - Present
Working with Prof. Abhinav Shrivastava. Primary areas of interest:
- Video understanding
- Learning grammar from videos
- Making INR models capable of doing semantic tasks

Applied Scientist Intern
Amazon Fashion, Sunnyvale, CA, Jun'24 - Aug'24
- Diffusion-based multi-view image editing for indoor scenes
- Conceptualized and created a large-scale dataset starting from 3D-Front
- Work in progress in an advising capacity

Applied Scientist Intern
Amazon Fashion, Sunnyvale, CA, Jun'23 - Aug'23
- Diffusion-based key-stroke assisted human body editing - pose and body shape transformation. The intended application was a 2D virtual try-on
- Worked with Stable Diffusion 1.5, and used ControlNets to modulate the latent space

Applied Scientist Intern
Amazon, Bellevue, WA, Jun'22 - Aug'22
- Worked on edge-based computer vision product focusing on objection detection
- Built a prototype model and pushed it to production for field trials
- Received a return offer for a full-time position

Data Scientist
Swiggy (BundlTechnologies), Bangalore, India, Sep'20 – Jan'21
- Deep learning-based road network extraction from satellite imagery
- Extracted building footprints at scale from OSM and constructed Point of Interest Polygons
- Work accepted at LocalRec-2021

Senior Research Engineer
Netradyne Technologies, Bangalore, India, Jun'17 – Aug'20
- Object Detection and Recognition
  - Curated the datasets and trained the models from the ground up for different geographies
  - Worked on FasterRCNN, SSD, MobileNets
- Optimization and Engineering – model acceleration and compression for on-device analytics
- Infrastructure Development – Primary developer for analytics video data lake and model evaluation tool

PAPERS

- **Measuring Style Similarity in Diffusion Models, ECCV 2024**
  Gowthami Somepalli*, Anubhav Gupta*, Kamal Gupta, Shramay Palta, Micah Goldblum, Jonas Geiping, Abhinav Shrivastava, Tom Goldstein
  Available at: here
  Can we measure the style similarity between images? We propose a way to extract style from images. We call this Contrastive Style Descriptors (CSD). Using this model, we study the style replication in image generation models.

- **Latent-INR: A Flexible Framework for Implicit Representations of Videos with Discriminative Semantics, ECCV 2024**
  Shishira R Maiya*, Anubhav Gupta*, Matt Gwilliam, Max Ehrlich, Abhinav Shrivastava
  Available at: here
  We show semantic capabilities in Implicit Neural Representations (INR) by proposing a novel framework that learns discriminative semantics in videos.

- **TREND: Tri-teaching for Robust Preference-based Reinforcement Learning with Demonstrations, ICRA 2025**
  Shuaiyi Huang, Mara Levy, Anubhav Gupta, Daniel Ekpo, Ruijie Zheng, Abhinav Shrivastava
  Available at: here
  Preference feedback collected by human or VLM annotators is often noisy, presenting a significant challenge for preference-based reinforcement learning. To address this challenge, we propose TREND, a novel framework that integrates few-shot expert demonstrations with a tri-teaching strategy for effective noise mitigation.

- **LEIA: Latent View-invariant Embeddings for Implicit 3D Articulation, ECCV 2024**
  Archana Swaminathan, Anubhav Gupta, Kamal Gupta, Shishira R Maiya, Vatsal Agarwal, Abhinav Shrivastava
  Available at: here
  Modeling unseen 3D articulation states by interpolating across a learnable, view-invariant latent embedding space.

- **PatchGame: Learning to Signal Mid-level Patches in Referential Games, NeurIps 2021**
  Kamal Gupta, Gowthami Somepalli, Anubhav Gupta, Vinoj Jayasundara, Matthias Zwicker, Abhinav Shrivastava
  Available at: here
  Emergent communication via mid-level patches in a referential game played on a large-scale image dataset

- **Mining Points of Interest via Address Embeddings: An Unsupervised Approach, LocalRec 2021**
  Abhinav Ganesan, Anubhav Gupta, Jose Mathew
  Available at: here
  Unsupervised PoI mapping (polygon boundaries) using GPS, OpenStreetMaps and Address Information in highly dense environments

PATENTS

- **US WO 2019/075341 Al:** Detection of driving actions that mitigate risk

SERVICE

- **Reviewer, CVPR 2025**
- **Reviewer, ICRA 2025**
- **Reviewer, CVPR 2024**
- **Advisor, Swasti (a Public Health NGO working in India), Nov'24 - Present**
- **Open World Vision, CVPR 2023, Vancouver:** Member, Organizing Committee
- **Dealing With Novelty in the Open Worlds, WACV 2023, Hawaii:** Co-organizer
- **Open World Vision, CVPR 2022, New Orleans:** Member, Organizing Committee
- **Dealing With Novelty in the Open Worlds, WACV 2022, Hawaii:** Co-organizer