Divya Kothandaraman

[Email](#) [Google Scholar](#) [Website](#) [GitHub](#) [Twitter](#)

Current Research Interests:

My current research is in video understanding and generative AI. I look forward to contributing and gaining research experience in computer vision and AI.

Education:

University of Maryland College Park, USA - PhD in Computer Science (Aug 2020 - present)
Advisor: Dr. Dinesh Manocha

Indian Institute of Technology Madras, Chennai, India - Bachelor of Technology in Electrical Engineering & Master of Technology in Data Sciences (Jul 2015 - Jul 2020)

Publications:

[13] **Divya Kothandaraman**, Kuldeep Kulkarni, Sumit Shekhar, Balaji Vasan Srinivasan, Dinesh Manocha. "ImPoster: Frequency Guidance for Subject-Driven Action Transfer from Image using Diffusion Models". (Under Review)

[12] Ruiqi Xian, Xijun Wang, **Divya Kothandaraman**, Dinesh Manocha. "PMI Sampler: Patch similarity guided frame selection for Aerial Action Recognition". (Under Review) Paper

[11] **Divya Kothandaraman**, Dinesh Manocha. "FINTERP$_T$: Cost-Time Analysis for Video Action Recognition using the Black Scholes Model". (Under Review)

[10] **Divya Kothandaraman**, Tianyi Zhou, Ming Lin, Dinesh Manocha. "Aerial Diffusion: Text Guided Ground-to-Aerial View Translation from a Single Image using Diffusion Models". Siggraph Asia 2023 (Conference Proceedings, Technical Communications) Paper

[9] **Divya Kothandaraman**, Ming Lin, Dinesh Manocha. "DifFAR: Differentiable Frequency-based Disentanglement for Aerial Video Activity Recognition". IEEE International Conference on Robotics and Automation (ICRA) 2023 Paper

[8] **Divya Kothandaraman**, Sumit Shekhar, Abhilasha Sancheti, Manoj Ghuhan, Tripti Shukla, Dinesh Manocha. "DistillAdapt: Source Free Active Visual Domain Adaptation". IEEE/ CVF Winter Conference on Applications of Computer Vision (WACV) 2023 Paper

[7] James Mullen, **Divya Kothandaraman**, Aniket Bera, Dinesh Manocha. "Placing Human Animations into 3D Scenes by Learning Interaction and Geometry-Driven Keyframes". IEEE/ CVF Winter Conference on Applications of Computer Vision (WACV) 2023 Paper

[6] **Divya Kothandaraman**, Tianrui Guan, Xijun Wang, Sean Hu, Ming Lin, Dinesh Manocha. "FAR: Fourier Disentangled Space Time Attention for UAV Activity Recognition". European Conference on Computer Vision (ECCV) 2022 Paper

[5] Tianrui Guan, **Divya Kothandaraman**, Rohan Chandra, Dinesh Manocha. "GANav: Group-wise Attention Network for Classifying Navigable Regions in Unstructured Outdoor

Environments". IEEE Robotics and Automation Letters (RA-L) 2022 and IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) 2022. Project Page

[4] **Divya Kothandaraman**, Rohan Chandra, Dinesh Manocha. "SS-SFDA: Self-Supervised Source Free Domain Adaptation for Road Segmentation in Hazardous Environments". IEEE/CVF International Conference on Computer Vision Workshops (ICCV-W) 2021 (Oral). Project Page

[3] **Divya Kothandaraman**, Rohan Chandra, Dinesh Manocha. "BoMuDA: Boundless Multi-Source Domain Adaptive Segmentation in Unconstrained Environments". IEEE/CVF International Conference on Computer Vision Workshops (ICCV-W) 2021 Project Page

[2] **Divya Kothandaraman**, Athira Nambiar, Anurag Mittal. "Domain Adaptive Knowledge Distillation for Driving Scene Semantic Segmentation", IEEE/CVF Winter Conference on Applications in Computer Vision Workshops (WACV-W) 2021 Paper Slides

[1] Varun Sundar, Sumanth Hegde, **Divya Kothandaraman**, Kaushik Mitra. "Deep Atrous Guided Filter for Image Restoration in Under Display Cameras". European Conference on Computer Vision Workshops (ECCV-W) 2020 Paper

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Patents:

[1] **Divya Kothandaraman**, Sumit Shekhar, Abhilasha Sancheti, Manoj Ghuhan, Tripti Shukla. "DistilAdapt: A Method for Source-free Active Domain Adaptation Across Visual Tasks". US Patent App. 17/648,482, 2023.

Professional Experience

Research Intern, Google DeepMind May 2023 - Aug 2023

- Worked on Video Personalization

Research Intern, Adobe Research May 2022 - Aug 2022

- Worked on Exemplar Image Animation

Research Intern, Adobe Research May 2021 - Aug 2021

- Worked on Source Free Active Domain Adaptation

Research Intern, Intel Aug 2020 - Jan 2021

- Worked on Incremental Few-shot Object Detection in Unstructured Traffic Environments

RnD intern, Advanced Technologies Lab, Samsung Research Institute May 2018 - July 2018

- Worked on Single-view 3D reconstruction for Augmented Reality Applications

Research Intern, Indian Institute of Science Bangalore

Advisor: Prof. Venu Madhav May-Jul '17&Dec '17

- Worked on Multi-view 3D reconstruction and motion averaging for Iterative Closest Point Algorithm

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Professional service:

Reviewer: TIP '21, CVPR '22, ECCV '22, IEEE-RAL '22, WACV '23, AAAI '23, BADUE IROS '23, CVPR '23, ICCV '23

Committee member, UMD CS Graduate School Applications 2021, 2022, 2023

Awards and Scholastic Achievements:

- Dean's Fellowship 2020, University of Maryland College Park
- Secured All India Rank 1065 in Joint Entrance Exam Advanced 2015, taken by 1.3 million students (99.92 percentile).
- Qualified for INChO (Indian National Chemistry Olympiad) 2015, state top 1% in NSEP (physics olympiad) and NSEC (chemistry olympiad).

Teaching Experience:

Jul-Nov 2019: Teaching Assistant for the course EE4708, Data Analytics Laboratory, IIT Madras
Jan -May 2020: Teaching Assistant for EE1101 Signals and Systems, IIT Madras

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Extracurricular Activities:

- GradCo CS Peer Mentor, UMD (Spring 2022, Fall 2022)
- Trained in Indian Classical Carnatic Music and Fine Arts
- Volunteer (2015-16) at National Service Scheme (NSS) IIT Madras Chapter; received an award for distinguished contribution; Core Team, NSS IIT Madras (2016-17)
