

# Divya Kothandaraman

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## Research Interests

Generative AI, multimodal learning and computer vision

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## Professional Experience

Senior Researcher, Dolby Laboratories (Jan 2025 - present)

- Led multiple research initiatives in generative AI, focusing on controllability, privacy and personalization for multimodal image and video synthesis, resulting in 2 patent disclosures, with both as lead author.
  - Currently leading applied research on context-driven content generation to enhance user engagement
  - Proposed a novel method for integrating logos onto textured surfaces by combining classical computer vision with generative modeling
  - Developed a training method for diffusion models that enables selective learning, moving beyond memorization
- Mentored 3 interns on generative AI projects, resulting in planned paper submissions to CVPR 2026

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## Education

University of Maryland College Park, USA - PhD in Computer Science (Fall 2020 - Fall 2024)

Advisor: Prof. Dinesh Manocha

Thesis: Learning from Less Data - Perception and Synthesis

Committee: Prof. Ming Lin, Prof. Tianyi Zhou, Prof. Jia-Bin Huang, Prof. Maria Cameron

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

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## Publications

- [19] **Divya Kothandaraman**, Jaclyn Pytlarz. “Beyond Memorization: Copyright Preserving Training of Generative Models”. (Under Review)
- [18] Taewon Kang, **Divya Kothandaraman**, Ming Lin. “Text2Story: Advancing Video Storytelling with Text Guidance”. (Under Review) [Paper](#)
- [17] Pooja Guhan, **Divya Kothandaraman**, Tsung-Wei Huang, Guan-Ming Su, Dinesh Manocha. “CamMimic: Zero-shot Image to Camera Motion Personalized Video Generation using Diffusion Models”. (Under Review) [Paper](#)

- [16] Taewon Kang, **Divya Kothandaraman**, Ming Lin, Dinesh Manocha. “3D-free meets 3D Priors: Novel View Synthesis from a Single Image with Pretrained Diffusion Guidance”. (Under Review) [Paper](#)
- [15] **Divya Kothandaraman**, Ming Lin, Dinesh Manocha. “Black-Scholes-Inspired Text-to-Image Diffusion Models for Prompt Mixing”. ACM International Conference on Multimedia (ACMMM) 2025, Oral [Paper](#)
- [14] **Divya Kothandaraman**, Tianyi Zhou, Ming Lin, Dinesh Manocha. “To 3D or Not to 3D; Examining Data Efficiency in Cross-View Synthesis”. IEEE International Conference on Multimedia Information Processing and Retrieval (MIPR) 2025, Oral [Paper](#)
- [13] **Divya Kothandaraman**, Kuldeep Kulkarni, Sumit Shekhar, Balaji Vasan Srinivasan, Dinesh Manocha. “ImPoster: Text and Frequency Guidance for Subject-Driven Action Personalization using Diffusion Models”. International Conference on Computational Linguistics (COLING) 2024 [Paper](#)
- [12] **Divya Kothandaraman**, Kihyuk Sohn, Ruben Villegas, Paul Voigtlaender, Dinesh Manocha, Mohammad Babaeizadeh. “Text Prompting for Multi-Concept Video Customization by Autoregressive Generation”. AI for Content Creation (AI4CC) Workshop at Conference on Computer Vision and Pattern Recognition (CVPR) 2024 [Paper](#)
- [11] Ruiqi Xian, Xijun Wang, **Divya Kothandaraman**, Dinesh Manocha. “PMI Sampler: Patch similarity guided frame selection for Aerial Action Recognition”. IEEE/ CVF Winter Conference on Applications of Computer Vision (WACV) 2024 [Paper](#)
- [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), Oral [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, Oral [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](#)

[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](#)

## Patents

[3] **Divya Kothandaraman**, Kihyuk Sohn, Ruben Villegas, Paul Voigtlaender, Mohammad Babaeizadeh. “Text Prompting for Multi-Concept Video Customization by Autoregressive Generation”. (US Patent filed with Google DeepMind, 2023).

[2] **Divya Kothandaraman**, Kuldeep Kulkarni, Sumit Shekhar, Balaji Vasan Srinivasan, Dinesh Manocha. “ImPoster: Frequency Guidance for Subject Driven Action Transfer from Image using Diffusion Models”. (US Patent filed with Adobe Research and UMD, 2024).

[1] **Divya Kothandaraman**, Sumit Shekhar, Abhilasha Sancheti, Manoj Ghuhan, Tripti Shukla.  
“Systems and Methods for Active Domain Adaptation”. US Patent App. 17/648,482, 2023.

## Internships

**Research Intern, Google DeepMind** *Mountain View, California, May 2023 - Aug 2023*

- Personalized video generation with Mohammad Babaeizadeh, Kihyuk Sohn and Ruben Villegas; paper at AI4CC @ CVPR 2024

**Research Intern, Adobe Research**      *Remote,*      May 2022 - Aug 2022

- Personalized image generation with Kuldeep Kulkarni; paper at COLING 2025

**Research Intern, Adobe Research**      *Remote,*      May 2021 - Aug 2021

- Domain adaptation with Sumit Shekhar; paper at WACV 2023

**Research Intern, Intel**      *Remote*,      Aug 2020 - Jan 2021

- Researched incremental few-shot object detection in unstructured traffic environments

RnD intern, Samsung Research Institute Bangalore, India May 2018 - July 2018

- Researched single-view 3D reconstruction for AR at the advanced technologies lab

**Research Intern, Indian Institute of Science Bangalore**

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

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

## Talks

- [Contributed Talk, Aug 2025] To 3D or Not to 3D: Examining 3D Data Efficiency in Cross-View Synthesis, MIPR 2025
  - [Invited Talk, Sep 2024] 3D-free meets 3D-priors: Data Efficient Novel View Synthesis from a Single Image using Diffusion Models, Wild3D Workshop at ECCV 2024
  - [Invited Talk, Mar 2024] 3D-free Text Controlled Aerial-View Synthesis from a Single Image using Diffusion Models, High-Beams Seminars, University College London (UCL)
  - [Contributed Talk, Dec 2023] Aerial Diffusion: Text Guided Ground to Aerial View Synthesis using Diffusion Models, SIGGRAPH Asia 2023
  - [Contributed Talk, Jan 2023] SALAD: Source-free Active Label Agnostic Domain Adaptation, WACV 2023
  - [Contributed Talk, Oct 2021] SS-SFDA: Self-Supervised Source Free Domain Adaptation for Road Segmentation in Hazardous Weather Conditions, ICCV-W 2021
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## Professional service

- Session Chair at MIPR 2025
  - Reviewer:
    - Journals - TIP (2021), TPAMI (2023), IEEE-RAL (2023-24), IEEE Multimedia (2025)
    - Conferences - CVPR (2022-25), ECCV (2022-24), WACV (2023-26), AAAI (2023-26), ICCV (2023-25), NeurIPS (2024-25), ICRA (2024), ICLR (2025), ICML (2025), BMVC (2025)
    - Workshops - BADUE IROS (2023), AI4CC CVPR (2024), 3D-in-the-wild ECCV (2024), SVU ICCV (2025)
  - Committee member, UMD CS Graduate School Applications 2021, 2022, 2023
  - GradCo CS Peer Mentor, UMD (Spring 2022, Fall 2022)
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## Awards

- ICSSA and Goldhaber Travel grant award from UMD for ECCV 2024
  - ICSSA and Goldhaber Travel grant award from UMD for SIGGRAPH Asia 2023
  - 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).
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## Teaching

Fall 2024: Teaching Assistant for CMSC818J, Domain Specific Architectures, UMD

Spring 2020: Teaching Assistant for EE1101, Signals and Systems, IIT Madras

## Research Mentoring

- Dolby Laboratories
    - Lingdong Wang (Intern, Summer 2025) - semantic video compression and generation
    - Bowen Chen (Intern, Summer 2025) - style control in image generation
    - Debopam Sanyal (Intern, Summer 2025) - efficient transformer architectures
  - University of Maryland
    - Taewon Kang (UMD PhD, Summer 2024 - Spring 2025) - novel view synthesis, controllable video generation; 2 papers under review.
    - Mukund Shankar and Pranav Dulepet (UMD Undergrad, Spring 2024) - researched novel-view synthesis as a part of the requirement for undergrad research credits.
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