Divya Kothandaraman

Email   **Google Scholar**   **Website**   **LinkedIn**

My goal is to advance computer vision, generative, and multimodal AI systems by developing methods grounded in core principles that are both foundational and application‑driven. I seek to contribute to solving diverse and challenging problems, enabling real‑world impact.

Professional Experience

Senior Researcher, Dolby Laboratories (Jan 2025 - present)

- Leading various post-training generative AI research initiatives, focused on multimodal image/ video generation and understanding - developed novel methods for context-driven generation, ad logo insertion and IP-safe training, resulting in 2 patent disclosures (lead author) and 1 paper (as lead author).
- Mentored 3 interns, resulting in 3 paper submissions and 1 patent disclosure

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Education

- PhD in Computer Science, University of Maryland College Park USA, Aug 2020-Dec 2024
- Masters in Data Sciences, Indian Institute of Technology Madras India, July 2015-June 2020
- Bachelors in Electrical Engineering, Indian Institute of Technology Madras India, July 2015-Jun 2020

Skills

Languages/ frameworks: Python, PyTorch, JAX

Domain Skills:

- Generative and multimodal AI: Diffusion/ transformer architectures, multimodal image/video generation (controllability, personalization, memorization), multimodal LLMs (reasoning/ chain of thought, context understanding), post-training (RLHF, fine-tuning, inference-time techniques)
- Computer vision, machine learning: domain adaptation, video recognition, data efficiency

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Publications

[22] Debopam Sanyal, Hongjie Chen, **Divya Kothandaraman**, Akshay Mehra, Joshua Kimball, Alexey Tumanov. "Swift Attention: Can Attention be Diagonalized?". (Under Review)

[21] Bowen Chen, Jake Zuena, Alan Bovik, **Divya Kothandaraman**. "RegionRoute: Regional Style Transfer using Diffusion Models". (Under Review)

[20] Lingdong Wang, Guan-Ming Su, **Divya Kothandaraman**, Tsung-Wei Huang, Mohammad Hajiesmaili, Ramesh K Sitaraman. "Low-Bitrate Video Compression through Semantic-Conditioned Diffusion". (Under Review)

[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**, Geonsun Lee, 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". Association for the Advancement of Artificial Intelligence (AAAI) Workshops 2026 [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

[6] Lingdong Wang, **Divya Kothandaraman**, Tsung-Wei Huang, Guan-Ming Su. "Ultra-Low Bitrate High Perceptual Quality Semantic Video Compression Through Text-Guided Generative Spatiotemporal Diffusion". (with Dolby Laboratories, 2025)

[5] **Divya Kothandaraman**, Jaclyn Pytlarz, Guan-Ming Su. "Diffusion-based Advertisement Logo Insertion". (with Dolby Laboratories, 2025)

[4] **Divya Kothandaraman**, Jaclyn Pytlarz. "Extracting Confidence-driven Metadata from Premium Content". (with Dolby Laboratories, 2025)

[3] **Divya Kothandaraman**, Kihyuk Sohn, Ruben Villegas, Paul Voigtlaender, Mohammad Babaeizadeh. "Text Prompting for Multi-Concept Video Customization by Autoregressive Generation". (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". (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 multimodal video generation, with Mohammad Babaeizadeh, Kihyuk Sohn and Ruben Villegas; paper at AI4CC @ CVPR 2024, patent filed

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

- Personalized multimodal image generation, with Kuldeep Kulkarni; paper at COLING 2025, patent filed

Research Intern, Adobe Research   *Remote,*   May 2021 - Aug 2021
- Domain adaptation with Sumit Shekhar; paper at WACV 2023, patent filed

Research Intern, Intel   *Remote,*   Aug 2020 - Jan 2021
- Incremental few-shot object detection in unstructured traffic environments

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

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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

Professional service

- Session Chair at MIPR 2025
- Reviewer:
  - Journals - TIP (2021), TPAMI (2023), IEEE-RAL (2023-24), IEEE Multimedia (2025)
  - Conferences - CVPR (2022-26), ECCV (2022-24), WACV (2023-26), AAAI (2023-26), ICCV (2023-25), NeurIPS (2024-25), ICRA (2024), ICLR (2025-26), ICML (2025), BMVC (2025)
  - Workshops - BADUE IROS (2023), AI4CC CVPR (2024), 3D-in-the-wild ECCV (2024), SVU ICCV (2025)

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).

Mentoring

Dolby Laboratories
- Lingdong Wang (PhD Intern, Summer 2025) - video compression and generation
- Bowen Chen (PhD Intern, Summer 2025) - style control in image generation
- Debopam Sanyal (PhD Intern, Summer 2025) - efficient transformer architectures

University of Maryland
- Taewon Kang (PhD, Summer 2024-Spring 2025) - novel view syn., video gen.
- Mukund Shankar (Undergrad, Spring 2024) - novel-view synthesis.
- Pranav Dulepet (Undergrad, Spring 2024) - novel-view synthesis.