

Nupur Kumari

Graduate Student
Robotics Institute
Carnegie Mellon University

<https://nupurkmr9.github.io/>
nupurkmr9@gmail.com
nkumari@andrew.cmu.edu

Education

Carnegie Mellon University

Robotics Institute, PhD 2022 - Present
Robotics Institute, MS (GPA: 4.17/4.3) 2021 - 2022

Indian Institute of Technology Delhi

Integrated M. Tech in Mathematics and Computing (GPA: 9.15/10.0) 2012 - 2017

Work Experience

Meta, US 2024

Adobe Research, US 2022, 2023
Summer Research Intern

Adobe, India July 2017-Jan 2021

Media and Data Science Research lab

Selected Publications [[Google Scholar](#)]

- **Nupur Kumari**, Xi Yin, Jun-Yan Zhu, Ishan Misra, Samaneh Azadi. *Generating Multi-Image Synthetic Data for Text-to-Image Customization*. ArXiv 2025. [[Paper](#)].
- Sean Liu, **Nupur Kumari**, Ariel Shamir, Jun-Yan Zhu. *Generative Photomontage*. CVPR 2025. [[Paper](#)].
- **Nupur Kumari**, Grace Su, Richard Zhang, Taesung Park, Eli Shechtman, Jun-Yan Zhu. *Customizing Text-to-Image Models with a Single Image Pair*. SIGGRAPH Asia 2024. [[Paper](#)].
- Maxwell Jones, Sheng-Yu Wang, **Nupur Kumari**, David Bau, Jun-Yan Zhu. *Customizing Text-to-Image Diffusion with Camera Viewpoint Control*. SIGGRAPH Asia 2024. [[Paper](#)].
- **Nupur Kumari**, Bingliang Zhang, Sheng-Yu Wang, Eli Shechtman, Richard Zhang, Jun-Yan Zhu. *Ablating Concepts in Text-to-Image Diffusion Models*. ICCV 2023. [[Paper](#)].
- **Nupur Kumari**, Bingliang Zhang, Richard Zhang, Eli Shechtman, Jun-Yan Zhu. *Multi-Concept Customization of Text-to-Image Diffusion*. CVPR 2023. [[Paper](#)].
- Daohan Lu*, Sheng-Yu Wang*, **Nupur Kumari***, Rohan Agarwal*, Mia Tang, David Bau, Jun-Yan Zhu. *Content-Based Search for Deep Generative Models*. SIGGRAPH Asia 2023. [[Paper](#)].
- **Nupur Kumari**, Richard Zhang, Eli Shechtman, Jun-Yan Zhu. *Ensembling Off-the-shelf Models for GAN Training*. CVPR 2022 (Oral). [[Paper](#)].
- Mayank Singh*, **Nupur Kumari***, Puneet Mangla, Abhishek Sinha, Balaji Krishnamurthy, Vineeth N Balasubramanian. *Attributional Robustness Training using Input-Gradient Spatial Alignment*. ECCV 2020. [[Paper](#)].
- **Nupur Kumari***, Mayank Singh*, Abhishek Sinha*, Harshitha Machiraju, Balaji Krishnamurthy, Vineeth N Balasubramanian. *Harnessing the Vulnerability of Latent Layers in Adversarially Trained Models*. IJCAI 2019. [[Paper](#)].
- Puneet Mangla*, **Nupur Kumari***, Mayank Singh*, Abhishek Sinha*, Balaji Krishnamurthy, Vineeth N Balasubramanian. *Charting the Right Manifold: Manifold Mixup for Few-shot Learning*. Spotlight at MetaLearn, NeurIPS Workshop 2019. [[Paper](#)].

(* equal contribution)

US Patents

- **Nupur Kumari**, Piyush Gupta, Akash Rupela, Siddarth R, Balaji Krishnamurthy, Bishal Deb, Ankita Sarkar. Generating a high-dimensional network graph for data visualization utilizing landmark data points and modularity-based manifold tearing. (US11295491B2)
- Balaji Krishnamurthy, Piyush Gupta, **Nupur Kumari**, Akash Rupela. Facilitating machine learning and data analysis by computing user-session representation vectors. (US10726325B2)

Press and Invited Talks:

- Custom Diffusion contributed to the AdobeFirefly custom model feature. [\[Link\]](#)
- Concept Ablation featured in CMU News. [\[Link\]](#)
- Presented Custom Diffusion at The AI Talks. [\[Link\]](#)
- Presented SynCD at Great Lakes Graphics Workshop. [\[Link\]](#)

Award and Honors

- Top reviewer NeurIPS 2024.
- IIT Delhi Semester Merit Award, 2016.
- Top-30 in KVS-RMO and **INMO (Indian National Mathematics Olympiad)** 2012 merit award.

Academic Service

- Reviewer: CVPR, SIGGRAPH, ICCV, NeurIPS, ECCV, TPAMI, ICLR, IJCV, WACV.
- Organizer: Graphics Seminar at CMU. Oct 2021-Present
- Teaching Assistantship:
 - Geometry-based methods in Vision Fall 2023, CMU
 - Learning for 3D Spring 2023, CMU
 - Machine Learning Adobe, India.
 - Linear Algebra Spring 2016, IIT Delhi
 - Discrete Mathematics Fall 2016, IIT Delhi
 - Data Mining Spring 2017, IIT Delhi
- Electrical coordinator, Robotics Club, IIT Delhi 2014-2015

Relevant Courses

Graduate:

Intro to Machine Learning
Computer Vision
Computational Photography
Learning for 3D
Geometry-based methods in Vision
Physics Based Rendering

Undergraduate:

Digital Image Processing
Discrete Mathematics
Principles of Artificial Intelligence
Natural Language Processing
Computational Perception and Cognition