Nupur Kumari

Graduate Student
Robotics Institute
Carnegie Mellon University

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Education

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

Indian Institute of Technology Delhi — 2012 - 2017
Integrated M. Tech in Mathematics and Computing (GPA: 9.15/10.0)

Work Experience

Meta, US — 2024
Adobe Research, US — 2022, 2023, 2025
Summer Research Intern

Adobe, India — July 2017-Jan 2021
Media and Data Science Research Lab

Selected Publications [Google Scholar]

- **Nupur Kumari**, Sheng-Yu Wang, Nanxuan Zhao, Yotam Nitzan, Yuheng Li, Krishna Kumar Singh, Richard Zhang, Eli Shechtman, Jun-Yan Zhu, Xun Huang. *NP-Edit: Learning an Image Editing Model without Image Editing Pairs*. ArXiv 2025. [Paper].
- **Nupur Kumari**, Xi Yin, Jun-Yan Zhu, Ishan Misra, Samaneh Azadi. *Generating Multi-Image Synthetic Data for Text-to-Image Customization*. ICCV 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:

- AIM Workshop, ICCV 2025, [Link]
- HiGen Workshop, ICCV 2025, [Link]
- Presented SynCD at Great Lakes Graphics Workshop. [Link]
- Presented Custom Diffusion at The AI Talks. [Link]
- Concept Ablation featured in CMU News. [Link]
- Custom Diffusion contributed to the AdobeFirefly custom model feature. [Link]

Award and Honors

- WiGRAPH Rising Star in Computer Graphics 2025. [Link]
- 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