Rishubh Parihar

Homepage | Twitter | Scholar | rishubhp@iisc.ac.in

RESEARCH

I develop algorithms and interfaces to control generative models, aiming to create intuitive control mechanisms that extend beyond text to assist creators and designers. I am also interested in exploring the knowledge encoded in the internal representations of large generative models and re-purposing that knowledge for downstream tasks.

EDUCATION

INDIAN INSITUTE OF SCIENCE, BANGALORE 2021 - ONWARDS
PhD in Computational and Data Sciences
Advisor: R. Venkatesh Babu

INDIAN INSTITUTE OF TECHNOLOGY, DELHI 2014-2018
Bachelor of Technology in Mathematics and Computing
Advisor: Prem Kalra

PUBLICATIONS

*equal contribution

[12] Zero-Shot Depth-Aware Image Editing with Diffusion Models — ICCV 2025
Rishubh Parihar* , Sachidanand VS*, R Venkatesh Babu

[11] Compass Control: Multi-Object Orientation Control for Text-to-Image Generation — CVPR 2025
Rishubh Parihar* , Vaibhav Agarwal*, Sachidanand VS, R Venkatesh Babu

[10] MonoPlace3D: Learning 3D-Aware Object Placement for 3D Monocular Detection — CVPR 2025
Rishubh Parihar* , Srinjay Sarkar*, Sarthak Vora*, Jogendra Kundu, R Venkatesh Babu

[9] Reflecting Reality: Enabling Diffusion Models to Produce Faithful Mirror Reflections — 3DV 2025
Ankit Dhiman*, Manan Shah*, **Rishubh Parihar** , Yash Bhalgat, Lokesh R Boregowda, R Venkatesh Babu

[8] Attribute Diffusion: Diffusion Driven Diverse Attribute Editing — NeurIPS WDM 2023, WACV 2025
Rishubh Parihar , Balaji Prasanna, Raghav Magazine, Sarthak Vora, Tejan Karmali, Varun Jampani, R Venkatesh Babu

[7] PreciseControl: Enhancing T2I Diffusion Models with Fine-Grained Attribute Control — News, ECCV 2024
Rishubh Parihar* , Sachidanand VS*, Sabariswaran Mani, Tejan Karmali, R Venkatesh Babu

[6] Text2Place: Affordance Aware Text Guided Human Placement — ECCV 2024
Rishubh Parihar , Harsh Gupta, Sachidanand VS, R Venkatesh Babu

[5] Balancing Act: Distribution-Guided Debiasing in Diffusion Models — News, CVPR 2024
Rishubh Parihar* , Abhijnya Bhat*, Abhipsa Basu, Saswat Mallick, Jogendranath Kundu, R Venkatesh Babu

[4] We never go out of Style: Motion Disentanglement by Subspace Decomposition of Latent Space — AI4CC 2024
Rishubh Parihar , Raghav Magazine, Piyush Tiwari, R Venkatesh Babu

[3] Strata-NeRF: Neural Radiance Fields for Stratified Scenes — ICCV 2023
Ankit Dhiman, R Srinath, Harsh Rangwani, **Rishubh Parihar** , Lokesh R Boregowda, Srinath Sridhar, R Venkatesh Babu

[2] Everything is there in Latent Space: Attribute Editing and Attribute Style Manipulation by StyleGAN Latent Space Exploration — ACMMM 2022
Rishubh Parihar , Ankit Dhiman, Tejan Karmali, R Venkatesh Babu

[1] Hierarchical Semantic Regularization of Latent Spaces in StyleGANs — ECCV 2022
Tejan Karmali, **Rishubh Parihar** , Susmit Agrawal, Harsh Rangwani, Varun Jampani, Manish Singh, R Venkatesh Babu

INDUSTRY EXPERIENCE

SNAP RESEARCH | Research Scientist Intern

June 2025 - Nov 2025 | Palo Alto, USA

- Proposed a new task of continuous strength control for instruction-based image editing. Given an input image, edit instruction, and a scalar edit strength, the model generates the edit with fine-grained control over the extent of the edit.

- Build a large-scale synthetic dataset using existing generative models, consisting of edits at different strengths for a given input image and edit instruction.
- The model builds on Flux Kontext and trains a projector network to map the scalar strength into the modulation space of the DiT model. The trained model enables continuous strength editing for diverse image editing applications, from stylization, shape change, appearance chang,e to changing object size.

SHARECHAT | Deep Learning Engineer

Oct 2020 - July 2021 | Bengaluru, India

- Build a multi-modal click-bait detection model for short videos for social media platforms. Leveraged a semi-supervised learning approach inspired by a mean teacher to learn from relatively small amounts of the labeled dataset effectively.
- Deployed model distillation techniques to compress large video feature extraction models into more efficient versions, significantly enhancing inference speed for a short video social media platform.

SAMSUNG RESEARCH INSTITUTE BANGALORE | Research Engineer

July 2018 - Sept 2020 | Bengaluru, India

Video motion classification for Samsung mobile phones

- Developed a motion type classification task for representation learning from videos; Annotated action categories in recognition datasets based on primitive motion types for the task. Demonstrated the effectiveness of learned representations through video retrieval tasks.
- Developed model compression techniques using quantization and pruning for near real-time inference on mobile video capture. The module was deployed across various Samsung smartphones using the SingleTake feature.

Face beautification module for Samsung mobile devices

- Developed a face image editing module for enhancement, effectively removing blemishes while preserving original skin texture. Designed an algorithm using adaptive guided filtering and wavelet representation to smooth lower-frequency components and seamlessly blend high-frequency details.
- The module can be easily adapted based on subjects' demographics: gender, age, and skin type for personalized beautification and achieve superior editing quality as compared to available commercial solutions.

HONORS AND AWARDS

- **Outstanding reviewer** award at CVPR 2025, ICCV 2025
- **Satish Dhawan Research Award 2024** for significant research contributions in controlling image generative models
- **Best Presentation** award (Visual Analytics track), IISc EECS Symposium, 2023 & 2025
- Awarded **Pradhan Mantri Research Fellowship** in August 2021 from Govt. of India
- **Academics excellence award** for 2018 Spring semester IIT Delhi.

ACADEMIC SERVICES

- Teaching assistant for Deep Learning for Computer vision (**DS265**), IISc, Spring 2023 & 2024
- Reviewer for **CVPR** , **ICCV** , **ECCV** , **NeurIPS** , **Eurographics** , **WACV**