

Rishubh Parihar

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RESEARCH

I specialize in controllable visual generative models, developing intuitive control mechanisms and interfaces to assist creators and designers. My work focuses on building multimodal control interfaces for image synthesis and probing internal representations of pretrained generators to steer generation and adapt them for downstream tasks.

EDUCATION

INDIAN INSTITUTE OF SCIENCE, BANGALORE

2021-2026

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

[15] DON'T SETTLE AT THE MODE! MITIGATING DIVERSITY COLLAPSE IN PRETRAINED FLOW MODELS VIA FEATURE SELF-GUIDANCE

[ECCV 2026](#)

Pradhaan Bhat*, **Rishubh Parihar***, Abhijnya Bhat, R Venkatesh Babu

[14] KONTINUOUS KONTEXT: CONTINUOUS STRENGTH CONTROL FOR INSTRUCTION-BASED IMAGE EDITING

[CVPR 2026](#)

Rishubh Parihar, Or Patashnik, Daniil Ostachev, R Venkatesh Babu, Daniel Cohen-Or, Jackson Wang

[13] SEETHROUGH3D: OCCLUSION AWARE 3D CONTROL IN TEXT-TO-IMAGE GENERATION

[CVPR 2026](#)

Vaibhav Agarwal, **Rishubh Parihar**, Pradhaan Bhat, Ravi Kiran, R Venkatesh Babu

[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

INDUSTRY EXPERIENCE

BRIA AI | RESEARCH SCIENTIST

Aug 2026 – Present | Remote – Bangalore

- **High-Resolution Product Photoshoot:** Conceptualized a single-image and text-conditioned image generation system for product photoshoots. Designed a custom dataset and trained a two-stage cascaded model (text-driven editor + edit upsampler) to synthesize high-quality product images while strictly preserving fine text and logos at 2K resolution.
- **Multi-Turn Localized Image Editing:** Engineered a precise image editing method for multi-turn localized editing. Curated a synthetic dataset of high-fidelity edit pairs with strict background preservation and fine-tuned the Fibo edit model.

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 change 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, CVPR 2026
- **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**, **SIGGRAPH**, **SIGGRAPH-Asia**, **NeurIPS**, **ICLR**