

Aniket Roy

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<https://scholar.google.co.in/citations?user=9y2gsDwAAAAJ&hl=en>

CURRENT RESEARCH INTEREST

Computer Vision, Deep learning, Few-shot learning, Multi-modal learning, Diffusion model.

EDUCATION

Johns Hopkins University	USA
<i>Ph.D. in Computer Science (GPA: 3.97/4.0, Advisor: Prof. Rama Chellappa)</i>	<i>Aug. 2019 – current</i>
Indian Institute of Technology Kharagpur	India
<i>M.S. (by Research) in Computer Science and Engineering (GPA: 9.33/10)</i>	<i>2015 – 2018</i>
West Bengal University of Technology	India
<i>B.Tech in Electronics and Communication Engineering (GPA: 8.64/10)</i>	<i>2010 – 2014</i>

EXPERIENCE

Summer Research Internship	June. 2021 – Aug. 2021
<i>Mitsubishi Electric Research Laboratories, Mentor: Dr. Anoop Cherian</i>	
Summer Research Internship	June. 2022 – Aug. 2022
<i>Amazon AWS AI, Mentor: Dr. Avinash Ravichandran, Dr. Hao Yang</i>	
Summer Research Internship	June. 2023 – Aug. 2023
<i>SRI International, Mentor: Dr. Susmit Jha</i>	
Summer Research Internship	June. 2024 – Sept. 2024
<i>Qualcomm AI Research, Mentor: Dr. Debasmith Das</i>	

PUBLICATIONS

- Aniket Roy**, Maitreya Suin, Anshul Shah, Ketul Shah, Jiang Liu, Rama Chellappa “*DiffNat: Improving diffusion image quality using natural image statistics*” (submitted)
- Aniket Roy**, Maitreya Suin, Ketul Shah, Rama Chellappa, “*MultLFG: Training-free Multi-LoRA composition using Frequency-domain Guidance*” (submitted)
- Aniket Roy**, Shubhankar Borse, Shreya Kadambi, Risheek Garepalli, Hyojin Park, Debasmith Das, Shweta Mahajan, Ankita Nayak, Rama Chellappa, Munawar Hayat, Fatih Porikli “*DuoLoRA : Cycle-consistent and Rank-disentangled Content-Style Personalization*” (submitted)
- Aniket Roy**, Maitreya Suin, Rama Chellappa “*Zero-shot customizing of objects via textual inversion*” (submitted)
- Aniket Roy**, Anshul Shah, Ketul Shah, Anirban Roy, Rama Chellappa “*Cap2Aug: Caption guided Image data Augmentation*” **WACV 2025**.
- Aniket Roy**, Anirban Roy, Soma Mitra and Kuntal Ghosh “*BRI3L: A brightness illusion image dataset for identification and localization of regions of illusory perception*”. **ICIP 2024**.
- Aniket Roy**, Anshul Shah, Ketul Shah, Prithviraj Dhar, Anoop Cherian, Rama Chellappa “*FeLMi: Few-shot learning with hard Mixup*” **NeurIPS 2022**.
- Aniket Roy***, Shraman Pramanick*, Vishal Patel, “*Multimodal Learning using Optimal Transport for Sarcasm and Humor Detection*”, **WACV 2022**.
- Basudha Pal, **Aniket Roy**, Ram P., Alice O Toole, Rama Chellappa “*DiversiNet: Mitigating Bias in Deep Classification Networks across Sensitive Attributes through Diffusion-Generated Data*” **IJCB 2024**.
- Anshul Shah, **Aniket Roy**, Ketul Shah, Shlok Mishra, David Jacobs, Anoop Cherian, Rama Chellappa “*HaLP: Hallucinating Latent Positives for Skeleton-based Self-Supervised Learning of Actions*” **CVPR 2023**.

11. Mahyar Fazlyab*, Taha Entesari*, **Aniket Roy**, Rama Chellappa “*Certified Robustness via Dynamic Margin Maximization and Improved Lipschitz Regularization*” **NeurIPS 2023**
12. Prithviraj Dhar, Josh Gleason, **Aniket Roy**, Carlos Castillo, Rama Chellappa “*PASS: Protected Attribute Suppression System for Mitigating Bias in Face Recognition*” **ICCV 2021**
13. Ketul Shah, Anshul Shah, Arun Reddy, **Aniket Roy**, Arushi Sinha, Celso De Melo, Rama Chellappa “*Ground-to-Air Generalization for Action Recognition via Synthesis*” **FG 2025**
14. Ketul Shah, Arushi Sinha, Arun Reddy, **Aniket Roy**, Rama Chellappa “*DIFFUSE2ADAPT: Controlled Diffusion for Synthetic-to-Real Domain Adaptation*” **ICIP 2025**
15. Prithviraj Dhar, Josh Gleason, **Aniket Roy**, Carlos Castillo, P.J. Philips, Rama Chellappa “*Distill and De-bias: Mitigating Bias in Face Recognition using Knowledge Distillation*” arxiv
16. [Book] **Aniket Roy**, Rahul Dixit, Ruchira Naskar and Rajat Subhra Chakraborty, “*Digital Image Forensics - Theory and Implementation*”, Springer, ISBN: 978-9811076435.
17. **Aniket Roy**, Rajat Subhra Chakraborty “*Towards Optimal Prediction Error Expansion based Reversible Image Watermarking*”. **IEEE TCSVT**
18. Diangrati Tariang, Prithviraj Sengupta, **Aniket Roy**, Rajat Subhra Chakraborty and Ruchira Naskar “*Classification of Computer Generated and Natural Images based on Efficient Deep Convolutional Recurrent Attention Model*”. **CVPRW 2019**.
19. **Aniket Roy**, Diangrati Tariang, Rajat Subhra Chakraborty and Ruchira Naskar “*Discrete Cosine Transform Residual Feature Based Filtering Forgery and Splicing Detection in JPEG Images*”. **CVPRW 2018**.
20. **Aniket Roy**, Rajat Subhra Chakraborty, Udaya Sameer, Ruchira Naskar. “*Camera Source Identification Using Discrete Cosine Transform Residue Features and Ensemble Classifier*”. **CVPRW 2017**.
21. **Aniket Roy**, Akhil Konda and Rajat Subhra Chakraborty. “*Copy Move Forgery Detection with Similar But Genuine Objects*”. **ICIP 2017**.
22. Diangarti Tariang, **Aniket Roy**, Rajat Subhra Chakraborty and Ruchira Naskar. “*Automated JPEG Forgery Detection with Correlation based Localization*”. **ICMEW 2017**.
23. [**Best Paper Award**] **Aniket Roy** and Rajat Subhra Chakraborty “*Optimal Distortion Estimation For Prediction Error Expansion Based Reversible Watermarking*”, **IWDW 2016**.
24. **Aniket Roy**, Arpan Kumar Maiti and Kuntal Ghosh “*An HVS Inspired Robust Non-blind Watermarking Scheme in YCbCr Space Additionally Designed to Prevent Singular Value Exchange Attack*”. **IJIG**

PATENTS

- **A.Roy**, S. Borse, S. Kadambi, A. Nayak, R.Garrepalli, H. Park, D. Das, M. Hayat, F. Porikli, S. Mahajan “*Cycle-consistency in LoRA Blending*” (**US Patents filed**)
- **A.Roy**, S. Borse, S. Kadambi, A. Nayak, R.Garrepalli, H. Park, D. Das, M. Hayat, F. Porikli, S. Mahajan “*Blending LoRAs with Rank Orthogonality and Layer priors*” (**US Patent filed**)

AWARDS AND HONORS

- Awarded as an **Amazon Fellow** as a part of JHU + Amazon initiative for Interactive AI
- Recipient of **Markose Thomas Memorial Award** for best research paper in CSE 2021 from IIT Kharagpur.
- Recipient of **Best Paper Award** in International Workshop on Digital-forensics and Watermarking (IWDW).
- Awarded with “**SCHEME OF SCHOLARSHIP FOR COLLEGE AND UNIVERSITY STUDENTS**” for *Higher Secondary Examination* and extended throughout B.Tech degree course.

PROFESSIONAL SERVICES

Reviewer: CVPR, ECCV, ICCV, ICLR, NeurIPS, ICML, WACV, IEEE TIP, IEEE TIFS, ACM TOMM.