

Abhipsa Basu

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📄 <https://abhipsabasu.github.io/>

Google scholar: <https://tinyurl.com/4u2xb65m>

Research Interests

- Fairness in Deep Learning Models
- Geographical Knowledge of LLMs/VLMs
- Enhancing Fairness of Synthetic Images Generated by Diffusion Models
- Using Synthetic Images for Fairness in Downstream Tasks

Education

- 2021-Current **Indian Institute of Science Bangalore.**
Ph.D in Computational and Data Sciences **CPI: 9.4/10**
- 2018 **Indian Institute of Technology Kharagpur.**
M.Tech in Computer Science and Engineering **CPI: 9.57/10**
- 2016 **Heritage Institute of Technology Kolkata.**
B.Tech. in Computer Science and Engineering **CPI: 9.0/10**

Publications

Conferences

- **A. Basu***, M.Singh*, S. Agnihotri, M.Keuper, R. V. Babu , “GeoDiv: Framework for Measuring Geographical Diversity in Text-to-Image Models” **ICLR 2026** [Paper] [Project Page]
- **A. Basu**, A.Gupta, A. Bhat, R. V. Babu “Harnessing Diffusion-Generated Synthetic Images for Fair Image Classification” **AAAI 2026** [Paper] [Code]
- **A.Basu**, S.S.Mallick, R.V.Babu “Mitigating Biases in Blackbox Feature Extractors for Image Classification Tasks” **NeurIPS 2024** [Paper] [Code]
- R. Parihar, A. Bhat, **A.Basu**, S.S.Mallick, J.N.Kundu, R.V.Babu “Balancing Act: Distribution-Guided Debiasing in Diffusion Models” **CVPR 2024** [Paper] [Code]
- **A.Basu**, R.V.Babu, D.Pruthi “Inspecting the geographical representativeness of images from text-to-image models” **ICCV 2023** [Paper] [Dataset]
- **A.Basu**, S.Addepalli, R.V.Babu “Rmlvqa: A margin loss approach for visual question answering with language biases” **CVPR 2023** [Paper] [Code]
- J. Patro, B. Samanta, S. Singh, **A.Basu**, P. Mukherjee, M.Choudhury, A. Mukherjee “All that is English may be Hindi: Enhancing language identification through automatic ranking of likeliness of word borrowing in social media” **EMNLP 2017** [Paper]

Workshops

- **A. Basu**, Y. Bahl, K. Bhagat, P. Seshadri, R. V. Babu , D. Pruthi, “Where Do Images Come From? Analyzing Captions to Geographically Profile Datasets” **CVPR 2026 MAPS Workshop** [Paper]
- **A. Basu**, M.Singh, R. V. Babu , “GeoDiv: Measuring Concept Diversity of Images Across Geographical Regions” **CVPR 2025 VLMs4All Workshop (Oral)** [Paper]
- **A. Basu**, A.Gupta, A. Bhat, R. V. Babu “Harnessing Diffusion-Generated Synthetic Images for Fair Image Classification” **CVPR 2025 SynData4CV Workshop** [Paper]

Relevant Course Work

Machine Learning for Signal Processing, Stochastic Models and Applications, Optimization for Machine Learning and Data Science,

Work Experience

Jul 2018 - **Position: Cognitive Data Scientist.**

Feb 2021 Organization: **IBM**

- Prepared a **question-answering** engine that would take a text as input, accept a question from the user, and output point answers
- Worked on a system that identifies the source and target of a **sentiment** by accepting a text as input
- Worked on a system that takes in a **health insurance contract** and a corresponding excel file created from the contract manually and compares the content of both programmatically

Scholastic Achievements

- Awarded the **ICLR Student Travel Grant** for ICLR 2026
- Awarded the best presentation award at **EECS Symposium IISc 2025**
- Awarded the **NeurIPS Student Travel Grant** for NeurIPS 2024
- **Qualcomm Innovation Fellowship 2024 Winner**-Machine Learning Track
- Awarded the **Kotak IISc AI-ML Student Travel Grant** for ICCV 2023
- **Qualcomm Innovation Fellowship 2023 Finalist** (awarded to 37 out of 124 teams)
- Recipient of the **Prime Minister's Research Fellowship(PMRF)**, 2022
- Secured a rank of **153** in **GATE 2016**

Skills

Programming Python, C, C++, Pytorch
Software MATLAB, $\text{\LaTeX}$, MS-Office