

# ANIMESH GUPTA

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## EDUCATION

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### Thapar Institute of Engineering & Technology

Bachelor's in Electronics and Computer Engineering

Patiala, India

August 2019 – July 2023

## PUBLICATIONS

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1. Data-Efficient Training of CNNs and Transformers with Coresets: A Stability Perspective [[code](#), [pdf](#)]  
**Animesh Gupta**, Irtiza Hasan, Dilip K. Prasad, Deepak Gupta  
*In Submission WACV, 2024*
2. Beyond the Imitation Game: Quantifying and extrapolating the capabilities of language models [[code](#), [pdf](#)]  
Multiple authors (in collaboration with **Google Research**)  
*TMLR, 2023*
3. Adaptive Fine-Grained Sketch-Based Image Retrieval [[code](#), [pdf](#)]  
Ayan Kumar Bhunia, Aneeshan Sain, Parth Hiren Shah, **Animesh Gupta**, Pinaki Nath Chowdhury, Tao Xiang, Yi-Zhe Song  
*ECCV, 2022*

## INTERNSHIPS

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### MVisionAI

Machine Learning Engineer Intern

Helsinki, Finland

February 2023 – Present

- Working on easing treatment plan for radiotherapy using Image Registration. Radiotherapy involves multiple imaging modalities, e.g. full-field-of-view Computed Tomography (CT) scans is used for planning and Magnetic Resonance Imaging (MRI) scans is used for tumour segmentation.
- Created an efficient library to facilitate multiple datasets and state-of-the-art algorithms.
- Adapted RWCNet and Transmorph codebases to reproduce the results of the OASIS and NLST datasets. Formed baseline for the AbdomenCTCT and NLST datasets.

### UiT Norway

Research Intern

Tromso, Norway

May 2022 – November 2022

Supervisors: Dr. Deepak Gupta, Dr. Irtiza Hasan, and Dr. Dilip Prasad

- Created a systematic benchmarking setup for different coreset methods on multiple CNNs and Transformers.
- Demonstrated that the conventional concept of uniform subset sampling across the various classes of the data is not the appropriate choice.
- The findings of the internship led to a research publication, currently under review at a Machine Learning Journal.

### NVIDIA

Research Intern

India

March 2022 – May 2022

- Experimented with latest Real-Time Lane Detection work and vision transformers for an improved solution for [DRIVE-Perceptron](#) platform with faster inference and performance.

### SketchX Lab, University of Surrey

Research Intern

London, England

July 2021 – March 2022

Supervisor: Dr. Yi-Zhe Song

- Worked on Fine-Grained Sketch Based Image Retrieval and Category-Level Sketch Based Image Retrieval.
- Contributed to the paper which created an adaptive Fine-Grained Sketch-Based Image Retrieval model. It adapts to new categories or different sketching patterns at test time, published in **ECCV 2022**.

### GirlScript Summer of Code

Intern

India

March 2021 – June 2021

- [Face-X](#): Added NasNet and Xception model architecture for Face Recognition. [[PRs](#)]
- [Comet.Box](#): Added YOLOv5 example for the object detection. [[PRs](#)]

### Minus Zero

Research Engineer

India

October 2020 – March 2021

- Worked on the Road Segmentation problem for autonomous cars in India.
- Used FCHarDNet as base architecture and trained on the *Indian driving dataset* (10k images and 34 classes).

## ACHIEVEMENTS

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- Ranked 3 in CVPR Demo Track Event 2022 conducted by HuggingFace. 2022
- Received Grant worth \$500 by Weights & Biases for ML Reproducibility Challenge, Spring 2021 2021
- Got selected for Prairie/MIAI Summer School 2021, INRIA, France. 2021
- Got selected for Gaussian Process Summer School 2020, Sheffield University, UK. 2020
- Won Bronze Medal for Kaggle Notebook in I'm Something of a Painter Myself challenge. 2020
- Top 42% in Google Landmark Recognition Challenge. 2020
- Top 6.5% in JEE Mains 2019. 2019

## RELEVANT COURSEWORK

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- Linear Algebra (*Gilbert Strang's 18.06*)
- CS231n: Deep Learning for Computer Vision
- Machine Learning ([Coursera Certificate](#))
- Neural Networks and Deep Learning ([Coursera Certificate](#))

## PROFESSIONAL ACTIVITIES

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- Conducting Workshop RCV at ICCV 2023, [Resource Efficient Deep Learning for Computer Vision](#)
- Undergraduate Teaching Assitant, [NVIDIA DLI WS-Building Conversational AI Applications](#)
- Volunteered in ICLR 2021.
- [OpenMined](#) Community Navigator.

## TECHNICAL SKILLS

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- **Languages:** Python
- **Frameworks:** PyTorch
- **DevOps:** Docker, Weights & Biases