ANIMESH GUPTA

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INTERNSHIPS

UiT Norway — *Remote*
Research Intern — *May 2022 – Present*
Supervisors: Dr. Deepak Gupta, Dr. Irtiza Hasan, and Dr. Dilip Prasad

- Comparing the performance of ResNet and ViT models when trained using the subset of the dataset with different percentages of entire dataset (CIFAR10, CIFAR100, Medical Imaging dataset) (1%, 5%, 10%, and so on).
- Subsets are created in a manner such that training model results in performance with minimal loss when compared to entire dataset.
- Examining the effects of using the pretrained weights and random initialized models on the subsets of training data.

NVIDIA — *India*
Research Intern — *March 2022 – May 2022*
Supervisor: Mr. Utkarsh Uppal

- 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 — *Remote*
Research Intern — *July 2021 – March 2022*
Supervisor: Dr. Yi-Zhe Song, Mr. Ayan Kumar Bhunia

- Worked on Fine-Grained Sketch Based Image Retrieval and Category-Level Sketch Based Image Retrieval.
- Developed techniques for Datafree Category Level Sketch Based Image Retrieval.
- Used Explainable AI techniques to identify the importance of particular strokes in the sketch images.
- Extracted 3D models and 2D images by scraping websites for new datasets of shoes and chairs.
- Contributed to one of the papers 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 — *Remote*
Intern — *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 — *Patiala, India*
Research Engineer — *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).

Indian Institute of Information Technology — *Allahabad, India*
Research Intern — *November 2020 – January 2021*

- Explored Scene Text Detection problem on JPEG compressed images.
- Analysed the performance of Textfusenet model on JPEG compressed images.

EDUCATION

Thapar University — *Patiala, India*
Bachelor's in Electronics and Computer Engineering — *August 2019 – June 2023 (expected)*

PUBLICATIONS

1. 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
2. Beyond the Imitation Game: Quantifying and extrapolating the capabilities of language models [code (1.1K+ stars), Pdf]
   Collaboration with Google Team
   Arxiv preprint, 2022

ACHIEVEMENTS

- 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 Metal 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.

RELEVANT COURSEWORK

- **Mathematics:** Linear algebra *(Gilbert Strang's 18.06)*
- **Courses:** Machine Learning (Coursera Certificate), Neural Networks and Deep Learning (Coursera Certificate)

PROFESSIONAL ACTIVITIES

- Undergraduate Teaching Assitant, NVIDIA DLI WS-Building Conversational AI Applications
- Volunteered in ICLR 2021.
- OpenMined Community Navigator.

TECHNICAL SKILLS

- **Languages:** Python, C, C++
- **Frameworks:** PyTorch, TensorFlow, TensorFlow.js, ml5.js
- **DevOps:** Docker, Heroku, FloydHub, Weights & Biases