

Akash Gupta

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EDUCATION

Indian Institute of Technology - Indian School of Mines
Bachelor of Technology in Electronics and Communication Engineering

Dhanbad, Jharkhand
Nov. 2020 – Present

Base PU College
Percentage: 84.7

Bangalore, Karnataka
May. 2017 – May 2019

St. Basil's School
Percentage: 94.5

Basti, Uttar Pradesh
July. 2012 – May 2017

EXPERIENCE

Research Intern

UiT - The Arctic University of Norway

Sep. 2022 - Present

- Developing novel training pipelines for CNN and vision transformers for handling very large images under resource budget constraints.

Deep Learning Intern

TransmuteAI Lab

May. 2022 - Sep. 2022

- Literature review of various code modularization techniques, code modularization and combining the power of various ways of Binarization, Pruning, Distillation and Quantization for an upcoming open-source tool.

CyberLabs, IIT-ISM

Member

Indian Institute of Technology, Dhanbad

- The official tech club of IIT-ISM, where we read research papers, complete the standard machine learning courses, participate in kaggle contests and various hackathons together.

PUBLICATIONS

UltraMNIST Classification: A Benchmark to Train CNNs for Very Large Images

D. Gupta, U. Bamba, A. Thakur, A. Gupta, S. Sharan, E. Demir, D.K. Prasad

- Paper Link: <https://arxiv.org/abs/2206.12681>
- Pattern Recognition Journal (Submitted)

PROJECTS

UltraMNIST Classification Benchmark

Code: <https://github.com/transmuteAI/ultramnist>

- * Played a key role in the creation of the UltraMNIST dataset.
- * Developed multiple baselines for the standard and budget-aware benchmark.
- * Co-authored a research paper.

Systematic Benchmarking of Quantization methods in Deep Learning

TransmuteAI Lab

- * Co-developing quantization models for an open-source project on bench-marking of model compression methods.
- * Scientific literature review, implementation of quantization methods and running experiments for an upcoming scientific paper.

Boschs Age and Gender Prediction

Code: https://github.com/gakash2k01/Bosch_AG-Prediction

- * Made Age and Gender prediction model using pytorch for InterIIT 2022.

Bot for Flipkart Grid 3.0

Code: <https://github.com/gakash2k01/Flipkart-GRID-3.0>

- * Created and automated a set of four bots for the challenge with my knowledge of openCV and algorithm.

Sentence encoder decoder

Code: <https://github.com/gakash2k01/saarthi-nlp-task>

- * Using huggingface's T5-small model, implemented a sentence encoder decoder model which can be used to predict part of speech from a sentence, summarize a small texts, predict titles or perform any text classification task with small changes. It can also be used to train a model that can translate sentences to different language merely by replacing the dataset.

TECHNICAL SKILLS

Machine Learning: PyTorch, Computer Vision, Open-CV, Deep Learning, Tensorflow, Natural Language Processing

Programming: C/C++, Python, MATLAB, GNU Octave

Developer Tools: Git, GitHub, Docker, VS Code

Other Skills: HTML, Django, MongoDB

Operating Systems: Ubuntu, Windows

Languages: English, Hindi

KAGGLE

Bronze Medal in American Express - Default Prediction

Link: <https://www.kaggle.com/competitions/amex-default-prediction>

Active Participation in:

Active participation in Kaggle Days, Google Universal Image Embedding, Vision-Verse, Image-Classification - 2, UltraMNIST Classification challenge, Happy Whale: Whale and Dolphin Identification, 30 Days of ML, PetFinder.my: PetPawpularity Contest etc