Vishak K Bhat

Adm. No. 21JE1047 +91 7760289129
vishak.bhat5@gmail.com vishak-k-bhat Vishak-Bhat30 vishakkbhat

Education

IIT(ISM) Dhanbad Expected May 2026
Integrated Master of Technology in Mathematics and Computing (GPA: 8.79 / 10.00, 5th Rank) *Dhanbad, Jharkhand*

- **Relevant Coursework:** Data Structures and Algorithms (C++), Object Oriented Programming , Data Base Management System , Data-Mining , Prob & Stats , Linear Algebra , Differential equations, Computational Finance, Optimization Techniques, Numerical Methods, Numerical Optimization

Experience

Swiggy – Data Scientist Intern Aug – May 2025

- Optimized Surge Values: Solved the Multi-Armed Bandit (MAB) problem by training a model using **Policy Grad** increasing the show up rate by 5% with no increase in expense.
- Designed an algorithm to rezone the existing zones to minimize cross-zone orders by 6%.

Google Summer of Code – ML4SCI - CERN (GSoC'24) April – Sept 2024

- Implemented two GNN architectures that outperformed transformer models in predicting the momentum of Muon particles. One model improved inference speed by 27%, while the other reduced mean squared error by 14%.
- Performed 3 methods to convert the data into graphs and then created a custom Message Passing Layer

Entrupy – Research Intern July – Aug 2024

- Trained a unified model for authenticity verification using multiple images per session from different regions, achieving a 95% true positive rate (TPR) with a 3% false positive rate (FPR).
- Used **ANNOY** to retrieve similar past images for classification and **Grad-CAM** to highlight decisive regions.

NyunAI –Research Intern May – June 2024

- Developed Nyun-Llama3-62B, a model with 12% fewer parameters than Llama-3-70B, achieving comparable or superior performance across MMLU, Winogrande, BoolQ, Hellaswag, Arc Challenge, and GSM8K benchmarks.

Bosch Global Software Technologies – Computer Vision Research Intern Jan – May 2024

- Used Maskformer, Mask2former models to obtain **Semantic Segmentation** of the dataset achieving F1 score of 0.89
- Applied **DINO** a self-supervised learning algorithm to get embeddings and then used GroundingDINO (object detection) to extract objects and created 10K images for fine-tuning the segmentation model.

UiT, The Arctic University of Norway - Bio-AI Labs – Research Intern Oct – Dec 2023

- Designed a model to process variable-size images by converting them into graphs, enabling further analysis for benchmarking tasks. Achieved an F1 score of 0.92 on the Bengali text dataset by graph classification

Projects

Vesuvius Challenge - Ink Detection - Kaggle Bronze Medal | *Computer Vision, Image Processing, PyTorch*

- Segmented ink in papyrus fragments, achieving an F-beta score of 0.74.

Personally Identifiable Information (PII) classification | *NLP, Attention, HuggingFace, Transformers, Finetuning*

- Finetuned BERT to identify PII by masked LM, then finetuned it to classify the type of PII achieving F1 score of 0.92

Technical Skills

Languages: C++, C, Python **Technologies**: Pytorch, Matplotlib, OpenCV, Scikit-Learn, Transformers
Concepts: Machine Learning, Deep Learning, Computer Vision, Natural Language Processing, Competitive Programming, Data Structures and Algorithms, Time series, Model pruning, Data Analysis

Achievements and Awards

- 1st Place, Winter of Code (WOC): Ranked 1st out of 1000+ participants in a highly competitive hackathon.
- Kaggle Competition Expert: Top 0.1% ranking among 185k kagglers.
- Scored in the top 0.03% in JEE Advanced 2021 and secured 240th rank in the Karnataka CET exam 2021.
- Selected to present my work at the GSoC'24 Summarization Program among all GSoC students.
- Winner, AgenticAI Hackathon: Secured 1'st place in a Microsoft-organized hackathon, competing against Swiggy employees, by developing an AI-powered fleet management system.
- Lead, ML Division – CyberLabs: Mentored juniors through teaching sessions and earning high recognition.