Atharv Jairath

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Education

Georgia Institute of Technology — Atlanta, GA
Masters in Science, Computer Science — *Aug. 2024 – Present*

Guru Gobind Singh Indraprastha University | ADGITM — New Delhi, India
Bachelor of Technology, Computer Science — 9.093 CGPA — *Aug. 2019 – Jul 2023*

Experience

Founding Machine Learning Engineer — Jan 2025 - Present
Honestly — *Bangalore, India*

- Built review analysis pipeline (fetching, cleaning, insights) for product pages using GPT4o
- Developed AI smart search and product recommendation multi-agent system using Elasticsearch, semantic search, Cohere rerank, and RRF using Langgraph

Machine Learning Engineer — Aug 2023 - Jan 2025
Entrupy — *Bangalore, India*

- Successfully optimized model pipeline for 2X faster inference.
- Building a multi-region shoe segmentation model with HRnet backbone and custom decoder.

Applied Scientist Intern — Feb 2023 - July 2023
Amazon — *Bangalore, India*

- Successfully identified key features strongly correlated with long-term user behavior among new-to-Amazon customers.
- Developed accurate predictive models to forecast settlement probabilities.
- Implemented reinforcement learning to optimize incentive allocation within budget, achieving increased customer settlement rates. The research paper on this work was **published** and presented at the **Amazon Machine Learning Conference (AMLC)**.

Machine Learning Intern — Jan 2023 - April 2023
ExaWizards Inc. — *Hyderabad, India*

- Created synthetic data using **Blended-latent Diffusion** to generate anomalies for improved accuracy of anomaly detection models.
- Investigated pose estimation on thermal images and the Segment anything Model (SAM) for improved object segmentation.

Deep Learning Intern — Jul 2022 - Dec 2022
HyperVerge — *Bengaluru, India*

- Designed and executed a 1:N image classification system utilizing **DBNet** as the feature extractor for identity document verification across multiple geographic regions.
- Successfully **optimized** image classification pipeline resulting in a **147%** reduction in latency and a **103%** decrease in GPU requirements.

Computer Vision Intern — Nov 2021 - May 2022
Spyne — *Gurgaon, India*

- Researched and worked on problems like Image Segmentation, Watermark Removal and Image Classification for Zomato and Swiggy.
- Implemented end-to-end deep learning models like **U-Net, WDNet and CLIP**, developed APIs and deployed them on **Nvidia Triton.**

NLP Research Intern Oct. 2021 – Jan. 2022
Voiceshop *New Delhi, India*

- Implemented concepts from state-of-the-art research papers related to Open-Domain Conversation.
- Contributed to open-source **Facebook's (ParlAI)** BlenderBot 2.0.
- Deployed and finetuned **GPT-J-6B** on Amazon SageMaker utilizing Huggingface (DLCs).

Research Intern Jul. 2021 – Aug. 2021
Dr. Akhilesh Das Gupta Institute of Technology *New Delhi, India*

- Implemented Custom Cost function for Ensemble model to decrease RMSE by 18% .
- Worked on a research project **"A Data-driven Diabetes Predictive Model Using Novel Optimized Weighted Ensemble"**.

Researchwork and Projects

Grammatical Error Correction Model with Dynamic Context Learning | *Paper accepted at **BDA 2023***

- Used **BERT** model to learn optimal splits within the paragraph/document ensuring maximal contextual information is preserved in the resulting chunks.
- Achieve an improvement of **77%**, **19.61%**, and **10.49%** $F_{0.5}$ score on CoNLL-2014, BEA-Dev, and FCE-Test datasets respectively from current SOTA models.

Glycosylated Hemoglobin Prediction | *Scikit-learn, Seaborn, Ensemble Learning, SciPy*

- Introduced an **optimized weighted ensemble model** that predicts the risk of Type 2 Diabetes.
- Worked on improving the performance by developing custom cost function for weights.

AI Image Caption Generator | *Keras, CNN, LSTM, GloVe, Transfer learning*

- Developed an Encoder-Decoder model using **CNN** and **LSTM** to generate captions from an image.
- Encoded Images using **InceptionV3** model and words using GloVe.

Positions of Responsibility

Machine Learning Lead, Google Developer Student Clubs: Organized workshops on Machine Learning, Supervised and Mentored team of 20+ members.

Founder, Younged: Founded an Ed-Tech platform to teach young aspirants Programming, Designed an efficient and beginner-friendly curriculum and Supervised Teachers.

Technical Lead, TutorateIndia: Managing technical execution to ensure adherence to budget, schedule, and scope. Designed, built, and maintaining a fully Functional LMS Website for the Startup.

Technical Skills and Coursework

Languages & Developer Tools: Python, C/C++, Git, GCP, AWS, VS Code, PyCharm, Jupyter Notebook
Libraries: Pandas, NumPy, Matplotlib, Tensorflow, Keras, Scikit-learn, PyTorch, Seaborn, Selenium
Coursework: **Coding Ninjas** - Data Science and Machine Learning, Python Data Structures and Algorithm, **Udacity** - AWS Machine Learning Foundations Course, **Coursera** - Deep Learning Specialization, Machine Learning by Stanford University, **Coursera** - Build Basic Generative Adversarial Networks, **DataCamp** - Introduction to Data Visualization with Seaborn.

Major Achievements

- Won **Smart India Hackathon 2022** against the problem statement KK1182 (Shared usage of workshops/labs across india) held at **IIT Ghuwati**.
- Among the **top 3** students from **ADGITM** who made it to **Amazon ML Summer School 2022**.
- Placed **1st** among **300+ participants** in MLH's Neighborhood Hacks with AasPaas.
- Secured **1st** among **600+ participants** in Coders vs COVID Hackathon with ArchSearch,
- **Winners of HackISOLATION** by IOSD and **2nd runner-up** in Innerve Hackathon, by IGDTUW.