

Kanishk Wagh

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EDUCATION

Thakur Shyamnarayan Degree College

2023 – 2026

Bachelor of Science in Data Science | CGPA: 7.8

Mumbai, Maharashtra

- Relevant Coursework: Python, JavaScript, Machine Learning, Data Structures, Statistics.

SKILLS

- **Languages:** Python
- **Frameworks & Libraries:** PyTorch, Keras, LangChain, LangGraph, Scikit-learn, NumPy, Pandas, Matplotlib, Seaborn
- **Tools & DevOps:** Git, GitHub, Docker, CrewAI, Google SDK, Model Context Protocol (MCP)
- **Hard Skills:** Computer Vision (CV), Graph Neural Networks (GNNs), LLMs
- **Areas of Interest:** Autonomous Agentic Systems, Transformer Architectures, Deep Learning

PROJECTS

TrackML – Particle Track Reconstruction using GNNs

GitHub

PyTorch Geometric, Transformers, GNNs

- Built a Transformer-based GNN (TrackTransformer) to reconstruct particle trajectories in 3D detector space for the TrackML Challenge.
- Used KNN-based graph construction ($k=8$) and optimized training with FP16 mixed precision under 15GB GPU memory.
- Analyzed extreme class imbalance ($\sim 1000:1$) and evaluated accuracy, recall, precision, and F1-score.

Competitor Analyzer Agent – LLM-based Market Intelligence System

GitHub

- Developed an AI agent system to monitor competitor websites and detect real-time changes in pricing, features, and positioning.
- Integrated webhooks, SHA-256 diffing, and LLM-based classification (Llama 3.3) for impact scoring and strategy generation.

Drone Detection System (Computer Vision)

GitHub

- Designed a deep learning-based computer vision pipeline for detecting drones in aerial imagery for surveillance use cases.
- Optimized for **Small Object Detection** by training on high-resolution **640x640** frames, specifically targeting drones occupying less than 5% of the total frame area.
- Curated a custom dataset of **2,783 high-resolution frames** using **Mosaic and Albumentations** (Blur, CLAHE), achieving an **mAP@0.5 of approximately 0.89** for reliable class differentiation.
- Leveraged the **YOLOv11 (Nano)** architecture to ensure real-time performance with inference speeds of **10-12ms**, providing a balance of high accuracy and low hardware latency.

GOOGLE-GDG-HYDERABAD HACKETHON

Chanakya — Multi-Agent Competitive Intelligence Platform

Link

AI Developer

- Built a **multi-agent AI system** for MSMEs to track competitors and market signals in real-time.
- Implemented **autonomous agents** for automated data collection, summarization, and strategic business insights.

RESEARCH & INTERESTS

Deep Learning Research: Passionate about first-principles learning in **Graph Neural Networks** and **Transformer Architectures**. Actively implementing research papers in PyTorch to build end-to-end AI systems.

SUMMARY

Highly ambitious and self-driven Data Science undergraduate with a deep curiosity for **Machine Learning**, **Deep Learning**, and **AI research**. Passionate about understanding systems from first principles and translating research ideas into real-world, end-to-end solutions. Experienced in building research-grade projects involving **Graph Neural Networks**, **Computer Vision**, and **Large Language Models**. Constantly seeking challenging problems, cutting-edge knowledge, and opportunities to grow as a researcher and engineer while contributing meaningful impact through technology.