

Gaurav Prakash

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EDUCATION

University of Maryland <i>Master of Science in Data Science</i>	College Park, MD Sep 2025 – Present
National Institute of Technology Karnataka (NITK) <i>Bachelor of Technology in Information Technology</i>	Surathkal, India Dec 2021 – May 2025
The Indian School <i>CBSE Higher Secondary (XII) – 96.2%</i>	Bahrain Apr 2019 – Jun 2021

EXPERIENCE

Analytics Intern GlobalFoundries	Apr 2025 – Aug 2025
– Developed large-scale RAG (Retrieval-Augmented Generation) chatbot solutions to enhance internal data discovery and query automation.	
– Integrated GPT-4o with company datasets for intelligent and contextual policy understanding.	
– Contributed to candidate success modeling by training NER-based extraction models to match resumes and job descriptions using embeddings.	
– Built scalable FastAPI-based ML services deployed across Microsoft Teams using Copilot Agents.	
Data and AI Intern IBM India	May 2024 – Jul 2024
– Designed a multi-modal sales intelligence system integrating structured (SQL) and unstructured (PDF, audio) data via LangChain and HuggingFace embeddings.	
– Implemented a WhatsApp-based RAG chatbot for Parle FMCG sales using Twilio and LLM-based natural language understanding .	
– Developed geospatial analysis pipelines with Google Maps API and demographic data to optimize retailer targeting.	
– Worked with cross-functional engineering teams to scale the pipeline on GCP infrastructure.	

PROJECTS

Twitter Bot Detection via Heterogeneous Graph Neural Networks <i>PyTorch, GraphSAINT, GraphSAGE</i>	Jan 2025
– Constructed large-scale heterogeneous graphs modeling user–tweet–list relations for social content integrity analysis.	
– Implemented subgraph sampling with GraphSAINT , achieving 87.38% F1-score on Twibot-20 dataset.	
– Improved inductive generalization through edge-type normalization, enhancing model stability on unseen data.	
Refining LLMs with Reinforcement Learning for Human-like Text <i>Research Paper, IEEE CONECCT 2024</i>	Jan 2024
– Fine-tuned FLAN-T5 with Proximal Policy Optimization (PPO) to align language models with human feedback.	
– Applied LoRA for parameter-efficient fine-tuning, reducing compute cost by 60%.	
– Achieved a 28% improvement in reducing AI detectability while maintaining semantic quality.	
Campus Food Delivery App <i>Django, Bootstrap, PayPal API</i>	May 2023
– Developed a full-stack food delivery platform with restaurant dashboards, secure payments, and live order tracking.	

TECHNICAL SKILLS

Languages: Python, C++, R, SQL, HTML/CSS, JavaScript
Machine Learning: CNNs, RNNs, Gradient Boosting, Transformers, Reinforcement Learning, Computer Vision, NLP
Frameworks/Libraries: TensorFlow, PyTorch, scikit-learn, LangChain, HuggingFace, NumPy, Pandas, OpenCV, FastAPI
Tools/Platforms: Git, GCP, Docker, VS Code, Google Colab, Jupyter Notebook
Coursework: Deep Learning, Machine Learning, Data Mining, Data Analytics, Natural Language Processing, Computer Vision

ACHIEVEMENTS & LEADERSHIP

Presented research at IEEE CONECCT 2024 (IISc Bangalore) on LLM fine-tuning via reinforcement learning.
Served as Technical Coordinator , NITK AI/ML Club — organized ML hackathons and PyTorch workshops.