ANSHUMAN MUKHERJEE

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Education

Manipal Institute of Technology   Sep. 2021 – July 2025
Bachelor of Technology in Computer Science - Artificial Intelligence - CGPA - 8.19/10   *Bengaluru, KA*

Experience

ThoughtStorm   January 2025 – July 2025
Software Engineer Intern   *Mississauga, Canada*
- Developed a full-stack Application Rationalization tool using Power Pages, Power Platform, and Azure services to assess and streamline 50+ enterprise applications; integrated Power Automate flows and Azure Active Directory to automate workflows and improve access control.
- Cleaned, standardized, and transformed over 1 M+ records of client data using SQL, Python, and Azure Data Factory; implemented Master Data Management (MDM) practices and data governance standards to elevate data quality and consistency across systems.
- Designed and deployed a conversational chatbot using Copilot Studio for the company website, supporting real-time data queries, email lead generation, and integration with HubSpot CRM enhancing user engagement and contributing to a 25% increase in qualified leads.

Intel Corporation   April 2024 – August 2024
Machine Learning Project intern   *Bengaluru, KA*
- Led the development of an accessible content curation platform for physically challenged users, enhancing usability and interaction for 100+ early users through adaptive UI and multi-format content integration.
- Built and deployed 10+ AI services using Python, FastAPI, Node.js, Hugging Face, and IndiaAI models (TTS, transcription, summarization), achieving a 40% improvement in processing speed via containerized microservices on Docker and Kubernetes.
- Orchestrated scalable ML workflows with Google Cloud Vertex AI and BigQuery, and implemented CI/CD pipelines using GitHub hooks, reducing deployment time by 60% and ensuring seamless updates across distributed components.

Projects

Research Agent for Crypto Investment Analysis | *LangChain, pgvector, Gemini API, PostgreSQL, FastAPI*   **June 2025**
- Engineered a GenAI agent for investment analysis using LLMs to parse, vectorize, and extract tokenomics insights from 1,000+ whitepapers and on-chain datasets.
- Implemented LangChain-based RAG flows and PostgreSQL + pgvector-backed retrieval for querying complex financial documents using semantic search.
- Designed scoring pipelines to recommend early-stage crypto assets by combining prompt-driven qualitative metrics with quantitative filters (e.g., vesting, burn rate, market fit).

Financial Data Analyst Agent with Insights | *LangGraph, Gemini API, FastAPI, Streamlit, SQLite, Docker*   **April 2025**
- Engineered a multi-modal GenAI chatbot combining NL2SQL, RAG, and simulated API data to deliver actionable financial insights via natural language queries and real-time analysis.
- Used LangGraph to orchestrate agentic reasoning workflows across structured (SQL DB), unstructured (financial explainers), and dynamic data (API-based stock/FX rates), generating contextual, predictive recommendations.
- Built Streamlit UI with FastAPI backend and Dockerized deployment; implemented complex prompt chains to simulate inflation forecasting and user-specific expense strategy guidance.

Autonomous Traffic Dashboard | *YOLOv8, COCO Tools, DeepSort, OpenCV*   **October 2023**
- Created real-time traffic monitoring system using YOLOv8, DeepSort, and OpenCV processing 50+ vehicles simultaneously with 95% accuracy.
- Implemented multi-device accessibility with 40 FPS processing on source systems and 10-15 FPS on remote devices, enabling distributed traffic monitoring across multiple locations and device types.
- Designed comprehensive analytics dashboard tracking 7 key metrics including pollution levels, traffic density, vehicle types, directional flow, and predictive forecasting based on hourly and daily traffic patterns.

Technical Skills

GenAI & ML: Python, HuggingFace, LangChain, OpenAI API, Gemini API, GenKit, TensorFlow, PyTorch, Scikit-learn, MLflow, Prompt Engineering
Cloud, Data & Analytics : FastAPI, Docker, Kubernetes, GitHub Actions, GCP (Vertex AI, BigQuery), Azure (Data Factory), Firebase, SQL, Pandas, Power BI

Leadership / Extracurricular

- Organized college's first-ever hackathon in hybrid format with 500+ teams participating, demonstrating exceptional project management and logistical coordination skills.
- Developed a comprehensive traffic dashboard using Machine Learning for vehicle detection and traffic density analysis at M# Hackathon 2023, stood 8th among 45 teams.
- Established valuable industry connections and partnerships for student cell, expanding opportunities for future collaborations.