

Sayan Banerjee

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sayan112207.github.io

Education

KIIT University , B.Tech in Computer Science	2021 – 2025
• CGPA: 8.88/10.0	
• Coursework: Data Structures, DBMS, Algorithm Design, Machine Learning, Cloud Computing, Distributed Systems	
Sri Chaitanya Techno School , CBSE	2020 – 2021
• Percentage: 92.8%	
St. Patrick's High School , ICSE	2018 – 2019
• Percentage: 92.3%	

Experience

Research Analyst Intern , Hevo Data – Bangalore	Jun 2024 – Dec 2024
• Administered 80+ ETL/ELT pipelines with real-time workflows and connector development via REST APIs and SSH/SSL.	
• Led the design and implementation of a Snowflake Pricing Calculator, increasing MQLs by 25% .	
• Developed a context-sensitive support chatbot which is deployed on 50+ blogs , boosting user retention by 15%.	
Research and Development Intern , Samsung – Remote	Nov 2023 – May 2024
• Achieved 86.3% accuracy in anomaly detection by analyzing patterns in app policy violations using RoBERTa-Large.	
• Built monitoring systems for 10K+ user interactions, reducing false positives by 40% .	
• Implemented a RAG-based architecture using LLMs such as Llama 3.2 1B to develop scalable systems.	

Publications

Precision Agriculture: Digital Twins and Advanced Crop Recommendation , IEEE ICOCT 2025	2025
<i>Sayan Banerjee</i> , Aniruddha Mukherjee, Suket Kamboj	
DOI: 10.48550/arXiv.2502.04054	
Efficient Waste Collection and Filtration using IOT , IJSREM	2023
<i>Sayan Banerjee</i> , Rahul Naugariya, Shubham Patel, Shubham Kumar	
DOI: 10.55041/IJSREM17403	

Projects

Hevo Support Chatbot , Hevo Data	Oct 2024 – Dec 2024
• Designed and deployed an AI-powered chatbot using LangChain and Gemini 1.5 Flash.	
• Integrated FAISS for vector-based retrieval and prompt engineering for accurate query resolution.	
EvoDrive , KIIT	Aug 2024 – Dec 2024
• Developed a JavaScript simulation that harnesses genetic algorithms and Dijkstra's pathfinding to boost autonomous driving.	
• Modeled the road network as a graph and employed interpolation for smooth paths, validated across 10,000+ scenarios.	
Vehicle Movement Analysis and Insight Generation , Intel Unnati	May 2024 – Jul 2024
• Built an AI-powered edge system using YOLOv8 for real-time vehicle tracking and PaddleOCR for license plate recognition.	
• Optimized inference speed with OpenVINO acceleration for efficient parking occupancy detection and traffic monitoring.	
Text-to-SQL , KIIT	Dec 2023 – Feb 2024
• Fine-tuned Star-Coder2-3b on SQL data using PEFT LoRA for efficient code generation from natural language.	
• Leveraged vectorization and token embedding to optimize performance in a resource-constrained environment	

Achievements

Intel Unnati Industrial Training , Intel	Jul 2024
Data Science , IBM	Apr 2024
1st position in Eureka Innovation Challenge , IIT Kharagpur	Feb 2024
OCI Certified Professional Data Science , Oracle	Jul 2023
Machine Learning Specialization , DeepLearning.ai	Mar 2023

Skills

- **Programming Languages:** Python, C++, Java, SQL, HTML, CSS, JavaScript
- **Technical Skills:** Machine Learning, Data Analysis, Version Control, Database Management
- **Tools/Platforms:** Git, Azure Studio, VS Code, Kafka, MySQL, Airflow, Redshift, Sagemaker, Snowflake
- **Frameworks/Libraries:** TensorFlow, PyTorch, PySpark, React, Bootstrap, Flask, Streamlit, Hugging Face