

Niraj Kumar Das

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EDUCATION

KPR Institute of Engineering and Technology

B.Tech in AI & Data Science; CGPA: 8.8/10.0

Coimbatore, India

2023 – Present

Dhanusha Science Campus

Higher Secondary (+2); GPA: 3.53/4.0

Nepal

2020 – 2022

CORE COMPETENCIES

Data Science: Algorithm Design, Data Exploration, Model Validation, Statistical Analysis, Predictive Modeling

AI & ML: Large Language Models (LLMs), RAG, Agentic Workflows, NLP, Computer Vision, Scikit-learn, PyTorch

Engineering: Python, SQL, Java, C, FastAPI, React.js, Git, Docker, Azure (Fundamentals)

Soft Skills: Peer Review, Stakeholder Engagement, Problem Formulation, Iterative Improvement

PROJECTS

Agentic AI-Powered PLC Code Generator | Python, LangChain, RAG, GPT-4, FastAPI

ABB Hackathon Winner
Formulated a novel multi-agent architecture to automate IEC-61131-3 PLC code generation, reducing development time by 40%.

Designed algorithms for a Retrieval-Augmented Generation (RAG) pipeline to fetch and validate domain-specific code patterns.

Implemented a rigorous Validator Agent to perform syntax and semantic analysis, ensuring 100% compliance with safety standards.

Interpreted simulation results using a custom Monitor Agent to detect anomalies and iteratively improve code quality.

Engineered a robust command-line interface (CLI) and API for seamless interaction with the code generation engine.

Smart Voice-Enabled Chatbot | Python, NLP, SpeechRecognition, MySQL

Developed an interactive voice assistant to explore new opportunities in accessibility, executing system commands and web searches.

Analyzed user interaction data to optimize speech-to-text processing, improving command recognition accuracy by 20%.

Integrated a MySQL database to manage structured task data, enabling efficient retrieval and scheduling.

T-20 World Cup 2024 Data Analysis | Python, BeautifulSoup, Pandas, Power BI

Mined and processed large-scale match statistics using web scraping techniques to build a comprehensive dataset.

Explored data distributions and correlations to discover actionable insights regarding team performance and player impact.

Produced compelling visualizations in Power BI to communicate findings to non-technical stakeholders effectively.

EXPERIENCE

Oasis Infobyte

Data Analytics Intern

Online

1 Month

Incorporated statistical methods to analyze the Wine Quality dataset, identifying key drivers of product quality.

Validated classification models (Random Forest, Logistic Regression) using cross-validation techniques to ensure robustness.

Iterated on feature engineering approaches, resulting in a measurable improvement in model precision and recall.

ACHIEVEMENTS

2nd Prize Winner, ABB Hackathon: Recognized for innovative use of Generative AI in industrial automation.

Event Coordinator Head, Mental Health Club: Led initiatives to improve student well-being.

Co-Chair, Innovation Vertical, YUVA Club: Fostered a culture of technical excellence.

CERTIFICATIONS

Supervised Machine Learning: Regression and Classification - DeepLearning.AI

Machine Learning with Python - IBM