Dhananjay Rana

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EDUCATION

Vellore Institute of Technology   Bhopal, Madhya Pradesh
Bachelor of Technology in Computer Science and Engineering   *Expected May 2026*
- Cumulative GPA: 8.61/10

DAV Public School   Yamuna Nagar, Haryana
CBSE 12th Standard   *May 2021*
- Percentage: 94.5%

TECHNICAL SKILLS

Languages: SQL, Python,Rust, C++, JavaScript
Generative AI & LLMs: RAG Pipelines, Agentic Workflows, Vector Search (FAISS), HuggingFace, Llama 3, Whisper
Frameworks & Libraries: FastAPI, Warp (Rust), PyTorch, TensorFlow, Scikit-learn, Pandas, NumPy, Next.js.
MLOps & Deployment: Docker, Docker Compose, Microservices Architecture, Git, GitHub, Linux, CI/CD Concepts.

PROJECTS

Nexus: Multimodal RAG System | *Rust, Python, Multimodal RAG, Docker, FAISS*   November 2025
- Architected a high-performance Rust Python microservices platform, utilizing Docker to decouple low-latency orchestration from ML inference workloads.
- Built a Multimodal RAG pipeline integrating Llama 3 and Whisper to ingest, index, and query complex Audio, Vision, and Text data.
- Engineered autonomous agents featuring sandboxed code execution for complex math and automated enterprise actions (Jira/Slack) with human governance.
- Implemented production-grade security, enforcing secure Clerk authentication and strict multi-tenant data isolation across vector databases.

Document Digitization System | *Python, CRAFT, TrOCR, SpaCy, Transformers*   August 2025
- Engineered an OCR pipeline to extract and structure textual data from handwritten documents.
- Performed data cleaning and preprocessing, including spell correction, to improve data quality for analysis.
- Utilized NER to identify and categorize key entities, converting unstructured text into a searchable, structured dataset.
- Automated the data extraction process for batch processing, improving efficiency for large-scale data ingestion.

Crop Prediction Analysis | *Python, Scikit-learn, Pandas, NumPy, FAST API*   March 2025
- Conducted exploratory data analysis (EDA) on 10,000+ agricultural records to identify key factors influencing crop selection.
- Performed feature engineering on soil, rainfall, and pH data to prepare the dataset for predictive analysis.
- Used regression models to analyze the relationships between environmental factors and crop suitability.
- Developed a user-facing dashboard for real-time interaction and presentation of analytical insights.

EXTRACURRICULAR

BlockDAG Hackathon | *Contributor*   2025
- Enhanced the structured Smart Contracts with the integration of required ML models.

Future_Wear Hackathon | *Team Leader*   2024
- Guided team in designing and developing data models incorporating 5 algorithms.

Technical Practice | *Self Learning*   Present
- Practicing advanced SQL problems on platforms like LeetCode and HackerRank.
- Exploring Data Analysis techniques and Machine Learning concepts.
- Solving Data Structures problems to strengthen foundational programming skills.

Community Engagement | *Volunteering*   2023-Present
- Volunteered for Gujarati club, contributing to cultural events.
- Active member of Sports club, participating in and organizing sports events.
- Participated as a dancer in multiple performances.

CERTIFICATIONS

IBM Gen AI Certification   2025
Supervised Machine Learning: Regression and Classification | *Coursera*   2025
Advanced learning Algorithms | *Coursera*   2024