

# Dhananjay Rana

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## EDUCATION

### Vellore Institute of Technology

*Bachelor of Technology in Computer Science and Engineering*

- Cumulative GPA: 8.61/10

Bhopal, Madhya Pradesh

*Expected May 2026*

### DAV Public School

*CBSE 12th Standard*

- Percentage: 94.5%

Yamuna Nagar, Haryana

*May 2021*

## 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