# SUNANDA MANNE

AI/ML Engineer · NLP Researcher · Full-Stack AI Builder

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## SUMMARY

Final-year B.E. AIML student (CGPA 9.1, VTU) with research experience at DRDO. Specialized in multilingual NLP, transformer fine-tuning, model compression, and end-to-end full-stack AI applications across healthcare, education, and finance. Top 5% of department.

## EDUCATION

**B.E. in Artificial Intelligence & Machine Learning — VTU**

CGPA: 9.1 · Top 5% of Department · Student of the Year 2022–2026

## EXPERIENCE

**AI/ML Intern — DRDO (Defence Research & Development Organisation)** Aug 2025 – Jan 2026

- Fine-tuned mBART & mBERT on 2M+ sentence multilingual corpus (4 Indian languages, 5 domains) using PyTorch & Hugging Face — BLEU 0.52 → 0.68 (+32%).
- Applied INT8 quantization + structured pruning to compress model 3× (1.8GB → 600MB); cut inference latency 40% (320ms → 190ms) with zero accuracy regression.
- Built end-to-end pipeline processing 500K+ records/day; tracked 60+ experiments across BLEU, latency, and robustness metrics.

PyTorch · Hugging Face · mBART · mBERT · ONNX · NLP · Quantization

**Research Contributor — Insight Driven Research** Aug – Nov 2025

- Applied Regression & K-Means clustering (k=5, Silhouette 0.71) on 1,200+ survey responses to surface 3 high-signal adoption segments.
- Designed 8 Tableau dashboards cutting stakeholder reporting cycle 60% (5 days → 2 days).

K-Means · Tableau · Regression · Data Analysis

**SDE Intern — Bluestock Fintech** Dec 2024 – Jan 2025

- Built Python ETL pipelines (Pandas + SQLAlchemy) processing 50,000+ daily financial records; automated schema validation cutting data errors 35%.
- Delivered 5 Power BI dashboards adopted as primary reporting tool by 12-person finance team.

Python · Pandas · SQLAlchemy · Power BI · ETL

## PROJECTS

**Medi Predict AI — Multi-disease Healthcare Prediction Platform**

- 10,000+ healthcare records · 92% accuracy · AUC-ROC 0.91 · Precision 0.89 · F1 0.88. Real-time predictions <2s.
- 50+ automated healthcare recommendation workflows; JWT-secured sessions with PDF report generation.

React.js · Flask · Scikit-learn · JWT · SQLite · Recharts · jsPDF

**AI-ML Attendance System — Facial Recognition at Scale**

- 5,000+ face samples · 95% recognition accuracy · 96.4% identification accuracy · <1.8% false-positive rate.
- Automated attendance for 1,200+ students across 40 classrooms; 80% reduction in manual processing time.

FastAPI · InsightFace · ONNX Runtime · OpenCV · React · SQLite

## SKILLS

**ML/DL:** XGBoost, Random Forest, Logistic Regression, CNNs, RNNs, K-Means, GridSearchCV, Model Pruning & Quantization

**NLP:** Transformers, BERT, mBART, mBERT, Hugging Face, Multilingual Fine-tuning, Tokenization, ONNX Runtime

**Full-Stack:** React.js, Flask, FastAPI, REST APIs, JWT Auth, SQLAlchemy, SQLite, HTML5/CSS3/JavaScript
**Frameworks:** PyTorch, TensorFlow, Scikit-learn, Pandas, NumPy, OpenCV, InsightFace, Joblib, Streamlit
**Visualization:** Tableau, Power BI, Recharts, Matplotlib, Seaborn, Jupyter Notebook
**Tools:** Python, SQL, C++, JavaScript, Git, Docker, Oracle OCI, Linux

## CERTIFICATIONS

- Oracle OCI 2025 AI Foundations Associate
- IBM Python for Data Science — Apr 2026
- McKinsey Forward Program — Dec 2025
- Google Data Analytics (4 courses) — 2025
- Johns Hopkins: Data Fundamentals — Sep 2025