Arnav Sinha | B.Tech Computer Science (AI/ML) ▪ VIT Vellore

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Summary

AI/ML engineer with proven track record in computer vision, NLP, and deep learning deployments. IEEE Hackbattle winner (Sept 2025, 600+ participants). Built 6+ end-to-end ML systems including real-time CV applications, multilingual NLP platforms, and mobile-optimized models. Skilled in TensorFlow, PyTorch ecosystems with focus on production-ready solutions.

Education

VIT Vellore

B.Tech Computer Science (AI/ML), ***CGPA: 8.63/10*** *2023–2027*

Achievements

IEEE Hackbattle: 1st Place ▪ September 2025 ▪ Won among 600+ participants at VIT

Google Challenge: Solution Challenge Participant ▪ AI-driven solution for real-world problems

Technical Skills

Languages: Python, C/C++, Java, JavaScript, HTML/CSS, GDScript

AI/ML: TensorFlow, Keras, scikit-learn, OpenCV, MediaPipe, NumPy, Pandas

Web/Tools: FastAPI, Streamlit, React, Godot, Git, Jupyter, ChromaDB

Projects

The Blinking Worlds: *Godot ▪ GDScript ▪ MediaPipe ▪ Computer Vision*

- Award-winning 2D platformer with world-switching mechanics
- Integrated **MediaPipe** for blink-based world transitions
- Designed multiple levels with physics-based puzzles and challenges

LipReading AI Model: *TensorFlow ▪ Conv3D ▪ BiLSTM ▪ CTC Loss*

- Built deep learning pipeline for visual speech recognition
- Implemented **3D CNN + BiLSTM** architecture with custom CTC loss
- Developed video preprocessing with frame normalization

ClauseWise: *FastAPI ▪ Streamlit ▪ Google Gemini ▪ ChromaDB ▪ HuggingFace*

- Legal document analyzer with 12+ Indian language support
- Built **RAG system** using ChromaDB and sentence-transformers embeddings
- Integrated dual PDF extractors (PyPDF2/PyMuPDF) with fallback mechanism

Cowwnect: *TensorFlow ▪ EfficientNetB3 ▪ Transfer Learning ▪ TF Lite*

- Developed **TensorFlow Lite** model for cattle breed classification
- Implemented transfer learning with EfficientNetB3 backbone
- Optimized model for mobile deployment with reduced size

Customer Churn: *Python ▪ scikit-learn ▪ Pandas*

Analyzed telecom data with EDA; compared Logistic Regression, Random Forest, XGBoost models

CodeVault: *HTML ▪ CSS ▪ JavaScript*

Created lightweight client-side code snippet manager with browser storage

Coursework

DSA ▪ DBMS ▪ OS ▪ Computer Networks ▪ Compiler Design ▪ Machine Learning (Andrew Ng) ▪ Transfer Learning Research (ResNet50, EfficientNetB0, MobileNetV2)