

# TARANDEEP SINGH JUNEJA

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## Summary

Final-year B.Tech Computer Science and Engineering student at Vellore Institute of Technology, experienced in software engineering, machine learning, and full-stack development. Interned at IIT Bombay and contributed to an international Omdena team on real-world AI solutions. Finalist in HackWithInfy and ranked **360 globally** in Meta Hacker Cup. Built production-grade systems including CNN audio classification, credit-fraud detection, and a full-stack AI document generator. Strong foundations in algorithms, problem-solving, scalable backend development, and model deployment.

## Experience

### FOSSEE Summer Intern — Python Developer

Feb 2025 – Jun 2025

IIT Bombay

Mumbai

- Implemented structural computation modules in Osdag using IS 800:2007, improving reliability for 10,000+ engineers.
- Built constraint-driven UI validation (freeze/unfreeze) preventing invalid states and improving debugging speed.
- Wrote reusable Python modules aligned with SDLC practices, improving maintainability and testability.
- Collaborated in iterative engineering cycles focusing on correctness, stability, and clean code practices.

## Projects

### AI Document Generator — FastAPI, React, Gemini, HuggingFace [GitHub] [Live Demo]

Sep 2025

- Architected full-stack AI document generator with FastAPI backend (1,655+ LOC), React frontend (1,137+ LOC), 17 REST endpoints, and 6-table relational database using SQLAlchemy ORM.
- Integrated Gemini 2.5-Flash + HuggingFace SDXL with a 3-tier fallback pipeline enabling automated content generation and contextual image creation with high reliability.
- Implemented section-wise refinement system, 41 modular Python functions, and robust error-handling for predictable, testable SDLC workflows.
- Deployed production-ready DOCX/PPTX export platform with JWT auth, responsive React UI (10+ components), and live deployment on Netlify + Render.

### AutoReach AI — Python, Gmail API, Jinja2 [GitHub]

Oct 2025

- Built automation pipeline sending 2,900+ personalized emails with 90% delivery reliability.
- Implemented batching, fail-safe retries, and concurrency-safe scheduling for stability.
- Designed modular, testable backend architecture aligned with SDLC and clean-code patterns.
- Used OAuth2, templating, and CSV-driven dynamic content generation.

### CNN Audio Classifier — PyTorch, FastAPI, Modal [GitHub]

July 2024

- Trained custom CNN on ESC-50 using Mel-spectrograms, achieving **83.5% accuracy** with reproducible ML pipeline.
- Deployed low-latency inference API on Modal GPU with FastAPI backend and asynchronous request handling.
- Built lightweight debugging + visualization tools (spectrograms, feature maps) to improve model explainability.

## Technical Skills

**Languages:** Python, C++, SQL

**Engineering Fundamentals:** Data Structures, Algorithms, Operating Systems, Computer Networks, Debugging, SDLC, Problem Solving

**Backend Development:** FastAPI, REST APIs, Jinja2

**Machine Learning:** PyTorch, TensorFlow, CNNs, Scikit-learn

**Tools:** Git, Modal, Postman

## Education

Vellore Institute of Technology

2022 – 2026

B.Tech Computer Science and Engineering

CGPA: 8.51 / 10

## Certifications & Achievements

- Meta Hacker Cup 2025 — Global Rank **360** [Certificate]
- Infosys HackWithInfy 2025 — Finalist
- Adobe GenSolve Hackathon — Top 5% [Certificate]
- Oracle Autonomous Database Cloud Professional — 2025 [Certificate]
- Oracle OCI Generative AI Professional — 2025 [Certificate]
- Postman API Student Expert — 2024 [Certificate]
- Codolio Coding Profile [Link]