

# TARANDEEP SINGH JUNEJA

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## Summary

Final-year CSE student at Vellore Institute of Technology with experience in backend development and machine learning. Interned at IIT Bombay on Osdag and built systems including an AI document generator, cold-email automation tool, and CNN audio classifier. Strong in algorithms, scalable API development, and ML deployment. Global rank 360 in Meta Hacker Cup and HackWithInfy finalist.

## 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

### St. John's Sr Sec School, CBSE

2021

Class XII

Percentage: 81%

## Certifications & Achievements

- Meta Hacker Cup 2025 — Global Rank **360** [\[Certificate\]](#)
- Infosys HackWithInfy 2025 — Finalist
- Oracle Autonomous Database Cloud Professional — 2025 [\[Certificate\]](#)
- Oracle OCI Generative AI Professional — 2025 [\[Certificate\]](#)
- Postman API Student Expert — 2024 [\[Certificate\]](#)
- Coding Profiles: [Codolio](#) — [LeetCode](#) — [GeeksforGeeks](#) — [Coding Ninjas](#) — [CodeForces](#)