

# Abhyuday Vaish

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## EDUCATION

### Vellore Institute of Technology

Bachelor of Technology in Computer Science (CGPA: 9.01)

Chennai, India

July 2024 – May 2028

### Delhi Public School

Class XII: (86.8%) — Class X: (95.6%)

Lucknow, India

2022 – 2024

## TECHNICAL SKILLS

**Languages:** Python, C/C++, Java, SQL (Postgres), HTML/CSS/JS, MATLAB

**Frameworks:** Flask, FastAPI, PyTorch, TensorFlow, LangChain, HuggingFace, Scikit-learn, OpenCV

**Tools:** Git, Docker, Google Cloud Platform, Render, VS Code, Cursor, CLI Tools, Linux/Bash

## EXPERIENCE

### Research Intern

Feb 2026 – Present

IIT BHU

Varanasi, India

- Developing deep learning models for real-world datasets; prototyping and evaluating architectures with research scholars.

### AI/ML Development Intern

Aug 2025 – Oct 2025

Daira EdTech

Chennai, India

- Engineered an automated ingestion pipeline for 100k+ UPSC PYQs, leveraging OpenCV image processing techniques (adaptive thresholding, CLAHE, denoising) to ensure high-accuracy text extraction from legacy scanned documents.
- Architected a RAG/Generative AI system to transform static questions into dynamic assessments with auto-generated explanations and hierarchical topic tags, driving 40% user engagement growth through personalized, on-demand content.

### Summer Research Intern

May 2025 – July 2025

Vellore Institute of Technology

Chennai, India

- Pioneered a framework for opponent profiling by integrating Stockfish with Chess.com APIs, achieving an 89.5% recall rate in identifying specific opening repertoire vulnerabilities.
- Fine-tuned a Gemma-2B LLM to generate automated counter-strategies, achieving 81.6% validation accuracy.
- Engineered a pipeline to analyze 2,500+ games, distilling exploitable tactical patterns and vulnerabilities.

## PROJECTS

### Solar CME Detection System | Python, Flask, TensorFlow, PostgreSQL

Jan 2026 – Present

- Designed a deep learning LSTM model to forecast solar wind parameters for the next 6 hours, utilizing a 24-hour historical lookback window to identify pre-eruptive patterns.
- Engineered an ETL pipeline to ingest scientific CDF data from SWIS-ISSDC and validate against SIDC catalogs.
- Built a secure Flask dashboard enabling researchers to visualize space weather trends and trigger retraining.

### Aadhar Analytics Engine | Python, Pandas, Plotly

Jan 2026

- Implemented fraud detection using statistical Z-Scores to flag daily volume spikes ( $Z > 3$ ), distinguishing between valid enrolment camps and potential operational anomalies.
- Designed a resource optimization model to classify districts by saturation density, redirecting inventory effectively.
- Built a *Migration Radar* analyzing ~5M transaction records to correlate address changes with fresh enrolments.

### AI Academic Assistant | FastAPI, Next.js, Supabase, RAG, Vector DB

June 2025 – Present

- Architected a RAG-based platform retrieving context from student notes to deliver syllabus-aligned content.
- Engineered pipelines for automated notes summarization and custom question paper generation based on PYQs and trends.
- Developed a full-stack Next.js solution to consolidate study materials and reduce student revision time.

### WellNest | Flask, TensorFlow, SQLAlchemy, Google APIs

Jan 2025 – Feb 2025

- Designed an encrypted, AI-driven platform identifying mental health risks via anonymous surveys (100+ users).
- Built with Flask & TensorFlow, achieving 95% accuracy in risk ID and boosting support uptake by 40%.

### CLER: CV Based Game Controller | Scikit-learn, OpenCV, NumPy, Keyboard

Mar 2022 – Apr 2022

- Devised a system to control in-game characters via real-time head movement, increasing accessibility for players.
- Utilized OpenCV for precise facial tracking and mapped movements to keyboard inputs with 98% accuracy.
- Innovated an accessible gaming experience, reducing reliance on manual controls by 100%.

## AWARDS & ACHIEVEMENTS

- 1st Place**, Industry-Academia Innovators Conclave (IAIC 2025): Research Poster Presentation Category.
- Global Rank 834** in CodeChef Starters 222 (Max Rating 1400+).
- Max Ratings:** LeetCode (1600+), Codeforces (1100+).

## POSITIONS OF RESPONSIBILITY

### Microsoft Innovations Club (MIC), VIT Chennai

Chennai, India

Project Lead | AI/ML Team Member

Sep 2024 – Present

- Project Lead (Jan 2026 – Present):** Leading a team of 7 on the “AI Academic Assistant” project; conducting code reviews, overseeing deployment, and mentoring juniors on GenAI workflows.
- AI/ML Member:** Organizing club workshops and collaborating with the AI/ML team on Kaggle competitions and technical projects since joining in Sep 2024.

### Data Science Member

Sep 2025 – Present

Google Developer Groups (GDG), VIT Chennai

Chennai, India

- Collaborating on data science projects, discussing ideas, and exploring new technologies with the community.