

# Abhay Agarwal

✉ officialabhay030405@gmail.com 📞 +91 8887752006 📁 Portfolio in Abhay Agarwal

🌐 Abhay030405 📊 Kaggle ⚡ CodeForces ⚡ Leetcode

## Education

**Motilal Nehru National Institute of Technology Allahabad**

Bachelor of Technology, Electrical Engineering

2024 – 2028

CPI: 7.65 till Semester 3

**Mahatma Hansraj Modern School, Jhansi UttarPradesh**

Higher Secondary Education, CBSE

2021 - 2023

Percentage: 82.33%

**Rani Laxmibai Public School, Jhansi UttarPradesh**

Secondary Education, ICSE

2021

Percentage: 93.2%

## Personal Projects

**Last Pulse — Technology Making Decisions When Doctors Cannot**



- A full-stack hospital system integrating deep learning models across critical medical departments
- Has role-based clinical workflows enabling doctors and patients to interact with AI-driven diagnoses.
- Built with Python, FastAPI, PyTorch, MongoDB, LangChain, LangGraph .

**Command Nest — Ultimate AI Command Hub For Intelligence Operations**



- AI-powered platform managing missions, documents, security, analytics, and operations.
- Centralized intelligence system with role-based access and real-time automation.
- Build with Python, FastAPI, LangChain, Geminni, Ollama3.2:3b .

**GeoShield — Pixel-Level Landslide Intelligence Using Mask R-CNN**



- Trained Mask R-CNN for pixel-level landslide segmentation on limited annotated images
- Implemented transfer learning using COCO pretrained ResNet-101 backbone architecture
- Built with Python, PyTorch, Detectron2, Mask R-CNN, ResNet-101, FastAPI

**Neural Watch — Autonomous ML Data Integrity & Drift Detection Platform**



- Developed an intelligent system to monitor data drift and data quality in ML pipelines
- Built with Python, PyTorch, Detectron2, Mask R-CNN, ResNet-101, FastAPI

## Technical Skills

**Programming Languages:** Java, Python

**Mathematical & Statistical Tools :** NumPy, Pandas, Seaborn, Matplotlib

**Libraries & Frameworks :** sk-learn, XGBoost, TensorFlow, PyTorch, LangGraph, LangChain, Streamlit, FastAPI

**DevOps & Development Tools:** Git, GitHub, VS Code, Jupyter Notebook, Google Colab, Docker, Kubernetes

**Specialized Area :** Object-Oriented Programming, Data Structures and Algorithms

**Core CS Concepts:** Operating Systems, Database Management Systems, Computer Networks

## Achievements

- **Competitive Programming :** Ranked as "Pupil" on Codeforces with a peak rating of 1213.
- **First Runner-up :** HACKATRON, technical fest (Infotsav) held at IIITM Gwalior.
- **Special Mention :** Dev or Die (Power Surge 2025), development event under Avishkar'2025
- **Winner :** Logical Rhythms (Codesangam 2025), Machine Learning event by CC club MNNIT.
- **Winner :** Hacktivate (BotRush Robotics Club 2025), sentiment analysis using custom CNN.
- **Winner :** Robo-Wars (BotRush Robotics Club 2025), 1 to 1 Robot fight by Robotics Club MNNIT.
- **First Runner-up :** Predefined Hardware (Power Surge 2025), hardware event under Avishkar'2025
- **Second Runner-up :** Doodle Bot (Robomania 2024), perfect bot event under Avishkar'2024

## Positions of Responsibility

- **SMP Mentor** — Student Mentorship Program, MNNIT Allahabad  
Mentored junior students academically and professionally through structured guidance and peer support.
- **Team Leader** — Cloud Weaver (🌐)  
Led team to First runner-up at Infotsav, IIITM Gwalior by designing and developing a scalable cloud-based solution.