

# Abhay Yadav

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## EDUCATION

### Vellore Institute of Technology

B.Tech, SCOPE | CGPA : 8.47

September 2022- Ongoing

### Lucknow Public School

Class XII | Aggregate: 84.6%

March 2020 - March 2022

### St. Mary's Inter College

Class X | Aggregate: 92%

March 2020

## SKILLS

**Languages:** Java, Python, Dart

**Frameworks & Tools:** Android Studio, Flutter, REST APIs, Seaborn, Numpy, Scikit, Matplotlib, Docker, Kubernetes, Flask, Tensorflow, Langchain, LlamaIndex, Power BI

**Databases and Cloud:** PostgreSQL, MongoDB, MySQL, Amazon Web Services

**Coursework:** DSA, OOP, DBMS, Operating Systems, Computer Networks

**Focus Areas:** Cloud Computing, Machine Learning, MLOps, Deep Learning, Data Science, Data Analytics, LLMs

## EXPERIENCE

### Freelance Graphic Designer | Remote | Jun 2021 – Jan 2022

- Delivered 30 high-quality graphic assets, including 28 promotional posters and 5 detailed architectural floor maps, consistently meeting tight client deadlines.
- Mastered Adobe Illustrator to create 100% pixel-accurate vector assets, ensuring optimal scalability and print readiness for all deliverables.
- Collaborated directly with 12 clients, iteratively refining drafts to achieve a 100% client satisfaction rate and secure 3 repeat engagements.

## PROJECTS

### Aeropulse—Air Quality Index Prediction Model | Python, Pandas, Scikit-learn, Matplotlib, ML

- Led a team of 8 in dataset collection and preprocessing, ensuring **95% data accuracy** for model training.
- Built the prediction model along with a **fine-tuned LLM** for answering queries based on AQI in India.
- Improved the model by using LSTM for using long term sequential data of 8-10 cities of India.
- Developed streamlined data curation workflows, **reducing preprocessing time by 30%** and enhancing the reliability of pollution control outcomes.

### Legal Nexus | Python, Groq API, Vector Database, Retrieval-Augmented Generation (RAG)

- Engineered a specialized LLM RAG application trained on CRPC law, Indian Penal Code and Indian Constitution while achieving **high-accuracy legal information retrieval**.
- Retrieved data from various sources and converted into usable .csv file then converted into **FAISS vector databases**.
- Leveraged the Groq API's LLM to deliver sub-second latency for complex legal queries, ensuring near-instantaneous responses.
- Engineered and Minimized model "hallucinations" by strictly grounding all output from the trusted knowledge base.

### Security System - MLOps | Python libraries, MongoDB, Docker, FastAPI, AWS, MLflow with DagsHub

- Built a **6-stage ETL pipeline (Ingestion, Validation, Transformation, Training, Evaluation, Pusher)** to manage the end-to-end ML lifecycle.
- Automated ML deployment using **Docker** containerisation, reading from **MongoDB** and deploying to **Storage buckets (preferably AWS buckets)** and orchestration using MLflow cutting deployment time by 94% (from 2 days to <3 hours).
- Achieved **100% experiment reproducibility** by implementing comprehensive model and data versioning across all six stages.

## CERTIFICATIONS

**Google-** The Bits and Bytes of Computer Networking

**DeepLearning.AI** - Machine Learning

**IBM** - Flutter and Dart: Developing Android, iOS and Mobile apps