Pranay Pandey

Computer Science Engineering Student (Delhi Technological University)
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Education

Delhi Technological University (DTU) **2023–2027**
Bachelor of Technology (B.Tech.) in Computer Science Engineering

Sant Gyaneshwar Model School **2021–2023**
CBSE Class XII

Hansraj Model School - Punjabi Bagh **2009–2021**
CBSE Class X

Experience — Portfolio: pranay013.github.io/PortfolioOnePranay

Machine Learning Intern @ DRDO **06/2025 – 07/2025**
Technologies: Python, Pandas, NLTK, Scikit-learn, Node2Vec, K-Means, Fuzzy C-Means, FuzzyWuzzy, FastAPI
- Engineered and deployed an end-to-end AI recommendation system, synthesizing ML models, NLP pipelines, Node2Vec graph embeddings, clustering, and fuzzy matching to enhance retrieval speed and precision.
- Developed scalable RESTful APIs with FastAPI for seamless, low-latency integration in production environments and upheld comprehensive documentation and rigorous standards in version control and testing.

Technical Proficiencies

Core Programming Skills: Java (**DSA**), Python (**ML, DSA**), C++ (**Intermediate**)
Database Technologies: MongoDB, MySQL, Neo4j, Redis
Machine Learning: Pandas, NumPy, Scikit-learn, PyTorch, TensorFlow (Keras), OpenCV, NLTK, Transformers, Hugging Face, LlamaIndex
Web Development: HTML, CSS, JavaScript, Bootstrap, React, Node.js, Express.js, GraphQL, FastAPI

Coursework:
Computer Networks, Operating Systems, Computer Architecture and Organization, Object-Oriented Programming Systems, Database Management

Skills:
Strategic Planning, Critical Thinking, Leadership, Conflict Resolution, Presentation, Interpersonal Communication and Team Collaboration

Achievements & Certifications — LinkedIn: pranaypandey10082005

- **2nd Position in Adobe AI-Hackathon (InvictusDTU 2023):**
  *Engineered a **Document Classification ML Model** achieving 95%+ accuracy for automated processing.*
- **Machine Learning Specialization by DeepLearning.AI and Stanford University (2024):**
  ***Supervised Learning**, **Unsupervised Learning**, and **Advanced Algorithms**.*
- **Deep Learning Specialization by DeepLearning.AI (2025):**
  ***Neural Networks - Deep Learning**, **Sequence Models**, and **Convolutional Neural Networks**.*
- Solved **200+ LeetCode Questions**, strengthening proficiency in **DSA - Java and Python**.

Projects — GitHub: PRANAY013

RAG-Driven Document Q&A and Recommendation Platform
Technologies: React, Node.js, Express, MongoDB, OAuth2, FastAPI, LlamaIndex, Hugging Face
– Developed a scalable MERN web application for document upload, semantic search, and conversational querying using Retrieval-Augmented Generation (RAG) with LlamaIndex and Hugging Face Transformers.
– Integrated LlamaIndex for efficient document indexing, context-aware responses, and a dual-mode recommendation engine combining semantic search with web resource matching, supported by robust APIs and secure authentication.

YOLO-Powered Real-Time Multi-Class Object Detection System
Technologies: Python, PyTorch, OpenCV, YOLOv8, COCO
– Built and fine-tuned a YOLOv8-based detection system using COCO pre-trained weights and custom traffic annotations, achieving high accuracy and real-time performance (30+ FPS) on live video.
– Automated data preprocessing and augmentation, and deployed an efficient inference pipeline for both edge devices and cloud platforms.