Pranay Pandey

Computer Science Engineering Student (Delhi Technological University — New Delhi, India)
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Education

Delhi Technological University (DTU) **2023–2027**
Bachelor of Technology (B.Tech.) in Computer Science Engineering 7.85 / 10
Sant Gyaneshwar Model School **2021–2023**
Class XII - Central Board of Secondary Education 83.6%
Hansraj Model School - Punjabi Bagh **2009–2021**
Class X - Central Board of Secondary Education 94%

Experience — Portfolio: pranay013.github.io/PortfolioOnePranay

Machine Learning Intern @ DRDO **Jun 2025 – Jul 2025**
Technologies: Python, Pandas, NLTK, Scikit-learn, Node2Vec, K-Means, Fuzzy C-Means, FuzzyWuzzy, FastAPI
- Engineered an end-to-end AI recommendation system, integrating NLP pipelines, Node2Vec graph embeddings, KMeans and FuzzyC clustering, and fuzzy matching achieving 850ms response time and 97% accuracy.
- Developed production-grade RESTful APIs with FastAPI enabling seamless, low-latency integration while maintaining 100% deployment success through comprehensive documentation and rigorous 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, YOLOv8, Computer Vision, Natural Language Processing, NLTK, Transformers, Hugging Face, LlamaIndex
- **Web Development:** HTML, CSS, JavaScript, React, Node.js, Express.js, Bootstrap, GraphQL, FastAPI

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

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

Achievements & Certifications — LinkedIn: pranaypandey10082005

- **2nd Position in Adobe AI-Hackathon (InvictusDTU 2023):**
  *Built 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 Learning 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: LlamaIndex, Hugging Face Embeddings, Groq API (Meta LLaMA 4 & 3.1), FastAPI, Google OAuth2, JWT, Git, Node.js, Express, MongoDB
- Created a full-stack MERN web app with a Python-based RAG microservice using LlamaIndex, Hugging Face, and Groq-hosted LLaMA 4 & 3.1 models for real-time multi-document semantic search and citation-rich responses.
- Designed a responsive vanilla-JS frontend with drag-and-drop uploads, custom chat UI, theme toggle, JWT-secured auth (OAuth2/local), and persistent user and session history with live document indexing.
- Engineered 13-class query categorization with prompt adaptation based on user intent, enabling general-purpose fallback handling and reduced hallucination via document-aware response control.

YOLO-Powered Real-Time Multi-Class Object Detection System
Technologies: PyTorch, Numpy, Scikit-learn, OpenCV, Ultralytics-YOLOv8, COCO
- Developed and fine-tuned an efficient YOLOv8-nano detection system using COCO pre-trained weights and custom traffic annotations, achieving 85%+ accuracy and real-time performance (24+ FPS) on a live video stream.
- Implemented automated preprocessing workflows with 72% data quality improvement and deployed multi-platform inference pipelines optimized for edge computing (2GB memory footprint) and cloud scalability.