DHRUV RAJORIA

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Education

Thapar Institute of Engineering and Technology **Sept 2022 – May 2026**
Bachelor of Engineering in Computer Science *CGPA: 8.36*

Relevant Coursework

- Data Structures and Algorithms
- Object Oriented Programming
- Quantum Computing
- Operating Systems
- Database Management Systems
- Artificial Intelligence
- Software Engineering
- Computer Networks
- Computer Architecture
- Machine Learning
- Cloud Computing
- Foundations of Data Science
- Natural Language Processing
- Predictive Analysis using Statistics

Experience

Velocis Systems Pvt. Ltd. **June 2025 – July 2025**
Python Networking Intern *Noida / India*

- Automated network device interactions using **Python**, **Paramiko**, and **Netmiko**.
- Streamlined SSH-based remote access, configuration, and monitoring tasks across the network infrastructure.

Projects

Orbit Forecaster 🔗 | *Python, Scikit-learn, Pandas, Seaborn*

- Preprocessed SDSS satellite telemetry data (10k+ records, 18 features) by removing ∼9% outliers via IQR filtering; validated with multi-panel boxplots.
- Trained a **Random Forest model** achieving $R^2 \approx 0.89$ to forecast redshift and orbital parameters.
- Enabled **collision avoidance** and mission planning through accurate trajectory prediction.

Multi-Drone Deployment and Surveillance System | *Python, YOLOv8, OpenCV, Raspberry Pi, LiDAR, Camera Module*

- Achieved **87% object detection accuracy** at **20 FPS** in aerial footage using **YOLOv8** and **OpenCV**, optimized for deployment on **Raspberry Pi 4B**.
- Integrated **LiDAR and camera modules** to estimate distances with **±10 cm precision** up to **12 meters**, enabling obstacle avoidance and coordination across **2 autonomous drones**.

Image Caption Generator 🔗 | *Python, Tensorflow, Keras, Matplotlib, NumPy, Pandas, CNN, LSTM, Streamlit*

- Achieved 90% accuracy on Flickr8k with an image captioning model using DenseNet-201 + LSTM.
- Deployed a Streamlit web app for real-time image uploads and AI-generated captions.

Topsis Python Package 🔗 | *Python, PyPI, NumPy, Pandas*

- Published a Python package for solving **Multi-Criteria Decision Analysis** problems using the **TOPSIS** method.
- Made available on **PyPI**, reaching a user base of 900,000+ developers for direct installation and use.

Technical Skills

Programming Languages: C/C++, Python, SQL, MySQL, R
Frameworks and Libraries: Pandas, NumPy, Flask , Scikit-Learn, PyCaret, TensorFlow, PyTorch
Tools and Environments: Git/GitHub, VS Code, Matlab, Postman , GNS3, CiscoPacketTracer , Jupyter, Unix

Certifications

- **AWS Academy Graduate – AWS Cloud Developing** – AWS Academy **Aug 2024 – Dec 2024**
- **AWS Academy Graduate – AWS Cloud Foundations** – AWS Academy **Aug 2024 – Dec 2024**
- **Natural Language Processing with Classification and Vector Spaces** – DeepLearning.AI (Coursera) **May 2025**
- **Natural Language Processing with Probabilistic Models** – DeepLearning.AI (Coursera) **May 2025**

Position of Responsibility

- **Core Member** | *URJA* **Jan 2024 – Jan 2025**
  Facilitated discussions and brainstorming sessions with 15+ members to generate innovative ideas for events.
- **Committee Representative** | *Rotaract Club of TIET* **Jan 2024 – May 2024**
  Managed and executed various social service events in local communities.

Achievements

- Finalist in the nationwide Hackathon HackTu 5.0; ranked in top 5% of 300+ participants for developing a full-stack solution using MongoDB and Node.js.
- Bagged a gold medal in archery at National Level , outperforming 250+ competitors.