Adarsh Khatri

Roll No.:24MT1102
M.Tech (CSE) with specialization in Data Science
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Education

Degree/Certificate	Institute/Board	CGPA/Percentage	Year
M.Tech	IIIT Una, HP	73.6%	2024-Present
B.Tech	Sanskar College Of Engineering & Technology	82.8%	2022
Senior Secondary	12th Board	80.6%	2018
Secondary	10th Board	77.9%	2016

Projects

- **CrimeAware: AI-Powered Video Surveillance** *Mar. 2025 - July 2025*
  Semester-2 / Mini Project-II / Guided by Dr. Shatrughan Modi Github
  – Developed a real-time AI-based surveillance system capable of detecting violent and non-violent activities from video streams.
  – Trained deep learning models using Hybrid CNN + LSTM on the Hockey Fight Dataset and RLVS datasets.

- **Deepfake Image Classification** *Feb. 2025 – May 2025*
  Semester-2 / Mini Project-I / Guided by Dr. Shatrughan Modi Github
  – Built a custom Convolutional Neural Network (CNN) from scratch to classify real vs. fake (deepfake) images.
  – Achieved 99.51% test accuracy using the Python (TensorFlow/Keras) implementation.
  – Re-implemented the same CNN model in MATLAB and compared its performance with a transfer learning approach using VGG16.
  – Conducted comparative analysis between custom CNN and VGG16 on parameters such as accuracy, training time, and model complexity.
  – Evaluated platform-wise differences (Python vs. MATLAB) in terms of GPU utilization, flexibility, and ecosystem tools.

- **Quantum MNIST Classification with Hybrid Neural Networks** *Feb. 2025 - Apr. 2025*
  Self-Learning / Personal Project Github
  – Built a hybrid quantum-classical model for MNIST using PennyLane & TensorFlow.
  – Integrated a quantum layer with 4 qubits and entanglement layers to enhance feature representation.
  – Trained the model on a reduced dataset and analyzed accuracy improvements over classical models.

- **Image-Based Plant Disease Detection Using Deep Learning** *Sept. 2024 - Dec. 2024*
  Semester-1 / Mini Project / Guided by Dr. Vikram Kumar Github
  – Developed a CNN-based model to classify plant diseases from leaf images
  – Used TensorFlow and achieved 97.52% accuracy on the PlantVillage dataset

Technical Skills

- **Programming**: C/C++, Python, MATLAB, SQL, Javascript
- **Data Science & ML**: NumPy, Pandas, Matplotlib, Seaborn, Scikit-learn, Model Evaluation, Cross-Validation
- **Deep Learning**: TensorFlow, Keras, PyTorch, CNN, RNN
- **Tools & Platform**: Google Colab, Jupyter Notebook, MATLAB, Flask, GitHub, *Power BI, VS Code, Postman
- **Web Development**: HTML, CSS, React.js, Bootstrap
- **Back-End Development**: Node.js, Express.js
- **Soft Skill**: Problem Solving
- **Databases & Cloud**: Firebase, Render
- **Basic Knowledge**: Streamlit, Data Augmentation, Transfer Learning, Learning Rate Scheduling, Early Stopping

** Elementary Proficiency*

Key Courses Taken

- **Computer Science**: Data Structures & Algorithms, Object-Oriented Programming
- **Machine Learning & AI**: Machine Learning, Deep Learning, Computer Vision, Natural Language Processing
- **Data Science**: Python for Data Science, Introduction to Data Science, Data Visualization, Exploratory Data Analysis