Abhishek

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Profile Summary

Final-year B.Tech Computer Science student specializing in Machine Learning and Deep Learning.

Certified by Stanford University (Andrew Ng, Coursera) in Supervised, Unsupervised, and Advanced Learning Algorithms.

Developed and deployed multiple end-to-end ML applications, including predictive models, dashboards, and RAG-based chatbots.

Skilled in data preprocessing, feature engineering, and model optimization.

Passionate about applying AI to real-world problems and eager to contribute to impactful Data Science or AI Research projects.

Education

KC Group of Research and Professional Institute — Una, H.P
B.Tech in Computer Science Engineering — *Expected July 2026*

Certifications

Supervised Machine Learning: Regression and Classification — Stanford University (Coursera) [View]

Advanced Learning Algorithms — Stanford University (Coursera) [View]

Unsupervised Learning Algorithms — Stanford University (Coursera) [View]

Projects

RAG Chatbot for Document QA | *Python, Flask, PostgreSQL, PGVector, Redis, Supabase, Render*
- Designed a Retrieval-Augmented Generation chatbot capable of answering complex queries from uploaded documents.
- Integrated embeddings, PGVector, and Redis for efficient vector search and semantic retrieval.
- Deployed on Render using Flask, connected with Supabase and GROQ API for scalable performance.

Car Price Prediction | *Python, Flask, Scikit-learn, Pandas, NumPy, Matplotlib, Seaborn*
- Built a Random Forest regression model achieving 78% accuracy on 19,000+ car price records.
- Enhanced accuracy with advanced feature engineering and hyperparameter optimization.
- Deployed a web application for interactive car price prediction.

Customer Segmentation with K-Means | *Python, Scikit-learn, Pandas, NumPy, Seaborn*
- Conducted RFM analysis and applied K-Means clustering to group customers for marketing insights.
- Identified high-value customer segments and visualized customer behavior patterns.

Air Quality Dashboard | *Python, Pandas, DuckDB, Plotly, Streamlit*
- Developed an interactive dashboard tracking real-time air pollution across India from 150+ IoT sensors.
- Implemented DuckDB for high-performance querying and Plotly for dynamic charts.
- Deployed a production-ready Streamlit app with continuous data updates.

Technical Skills

Programming: Python, SQL, HTML, CSS, JavaScript (basic)
Databases: MongoDB, PostgreSQL, Redis, Supabase
ML/AI Frameworks: TensorFlow, Scikit-learn, Pandas, NumPy, Matplotlib, Seaborn, Streamlit
Tools & Platforms: Flask, VSCode, Jupyter Notebook, Render, Git/GitHub, Docker (basic)
Concepts: Machine Learning, Deep Learning, NLP, RAG, Data Cleaning, Feature Engineering, Model Evaluation

Research Interests

Artificial Intelligence and Machine Learning

Natural Language Processing (NLP)

Data Visualization and Analytics

Applied Deep Learning for Real-World Problems