

EDUCATION				
Degree/Certificate		Institute	CGPA / %	Year
M. Tech (Department of Management Sciences)		Indian Institute of Technology, Kanpur	-	2026 - Present
B. Tech (Agricultural Engineering)		Punjab Agricultural University, Ludhiana	8.60	2022-2026
Higher Secondary Education (CBSE Board)		Akal Academy, Jaga Ram Tirath	99.2	2022
Secondary Education (CBSE Board)		Akal Academy, Jaga Ram Tirath	95	2020
PROJECTS				
Movie Recommender System Machine Learning Recommendation System (GitHub Link) (Self Project)				July 2026
Objective	To build a content-based movie recommendation system that recommends similar movies based on user preferences using movie metadata and cosine similarity			
Approach	1. Data Preparation & Preprocessing –Merged TMDB movies and credits datasets, handled missing values, extracted metadata and transformed text features using Count Vectorizer 2. Recommendation Engine – Generated movie feature vectors using CountVectorizer , computed Cosine Similarity , and retrieved the Top-5 most similar movies using a precomputed similarity matrix. 3. Deployment – Developed an interactive Streamlit web application and integrated the TMDB API to dynamically fetch movie posters and display recommendations.			
Result	Successfully developed and deployed a content-based recommendation system that retrieves the Top-5 similar movies and dynamically displays movie posters using the TMDB API.			
SMS Spam Classification Machine Learning Classification (GitHub Link) (Self Project)				July 2026
Objective	To build a machine learning model that classifies SMS messages as Spam or Ham using Natural Language Processing (NLP) and text classification techniques.			
Approach	1. Data Prep & Training – Cleaned the dataset by removing missing and duplicate records, encoded the target variable using Label Encoder , performed EDA to analyse class imbalance, and extracted text statistics (word count, character count, sentence count) using NLTK . 2. Text Processing & Model Development – Applied text preprocessing including lowercasing, tokenization, removal of special characters, punctuation and stopwords, followed by stemming. Generated text features using CountVectorizer and TF-IDF Vectorizer, trained multiple classification models, and selected Multinomial Naive Bayes as the best-performing model. 3. Model Optimization & Deployment – Optimized the TF-IDF Vectorizer by limiting the vocabulary to 3,000 features, improving classification performance, and deployed the model as an interactive Streamlit web application for real-time spam detection.			
Result	The optimized TF-IDF + Multinomial Naive Bayes model achieved an Accuracy of 97% and a Precision of 100% , enabling reliable real-time classification of spam and legitimate SMS messages.			
Crop Yield Prediction Machine Learning Regression (GitHub Link) (Self Project)				July 2026
Objective	To build a machine learning model that predicts crop yield using environmental and agricultural factors to support data-driven agricultural decisions.			
Approach	1. Data Preparation & Preprocessing – Performed exploratory data analysis (EDA), handled missing values and duplicates, applied One-Hot Encoding to categorical features, and standardized numerical features using StandardScaler. 2. Model Development & Optimization – Trained a Decision Tree Regressor and optimized its performance using GridSearchCV . The best hyperparameters obtained were max_depth=None , min_samples_split=2 , and min_samples_leaf=2 . 3. Model Evaluation & Deployment – Evaluated the model using R ² Score and Mean Absolute Error (MAE), serialized the trained model using Pickle, and developed a Flask web application for real-time crop yield prediction.			
Result	The optimized Decision Tree Regressor achieved an R² Score of 0.977 with a Mean Absolute Error (MAE) of 4502.5 , providing accurate crop yield predictions through an interactive Flask-based web application.			
Flight Price Prediction Machine Learning Regression (GitHub Link) (Self Project)				July 2026
Objective & Approach	Built a Random Forest Regression model to predict airline ticket prices using flight details such as airline, source, destination, journey date, departure/arrival time, and duration. Performed EDA, feature engineering, One-Hot and Label Encoding, feature selection, and optimized the model using RandomizedSearchCV.			
Result	The optimized Random Forest Regressor achieved an R² Score of 81% , providing reliable flight fare predictions.			
CERTIFICATES				
Supervised Machine Learning: Regression and Classification (Certificate Link)				
Deep Learning.AI & Stanford Online (Coursera)				
COURSEWORK & SKILLS				
Relevant Courses	Data Mining and Knowledge Discovery* Probability & Statistics* Operations Research for Management * Introduction to Computing *			
Skills	Python ML Libraries: NumPy, Pandas, Matplotlib, Scikit-learn etc. MySQL* Excel*			
Soft Skills	Analytical Ability Decision Making Problem Solving Communication Skills Teamwork			
ACHIEVEMENTS & EXTRACURRICULAR				
●AIR 1 in TIFAN-24 National level Competition for the development of Automated Vegetable Transplanter (2023-24) ●GATE AIR 5 in Agricultural Engineering ●Abhay Saini Excellence Award for outstanding academic and co-curricular performance ●Ashok Kumar Mattoo Running Trophy for highest OCPA in first year (2023) ●Dr. G.S. Khush Merit Scholarship for academic excellence				