

Uttarakhand Environment Analysis

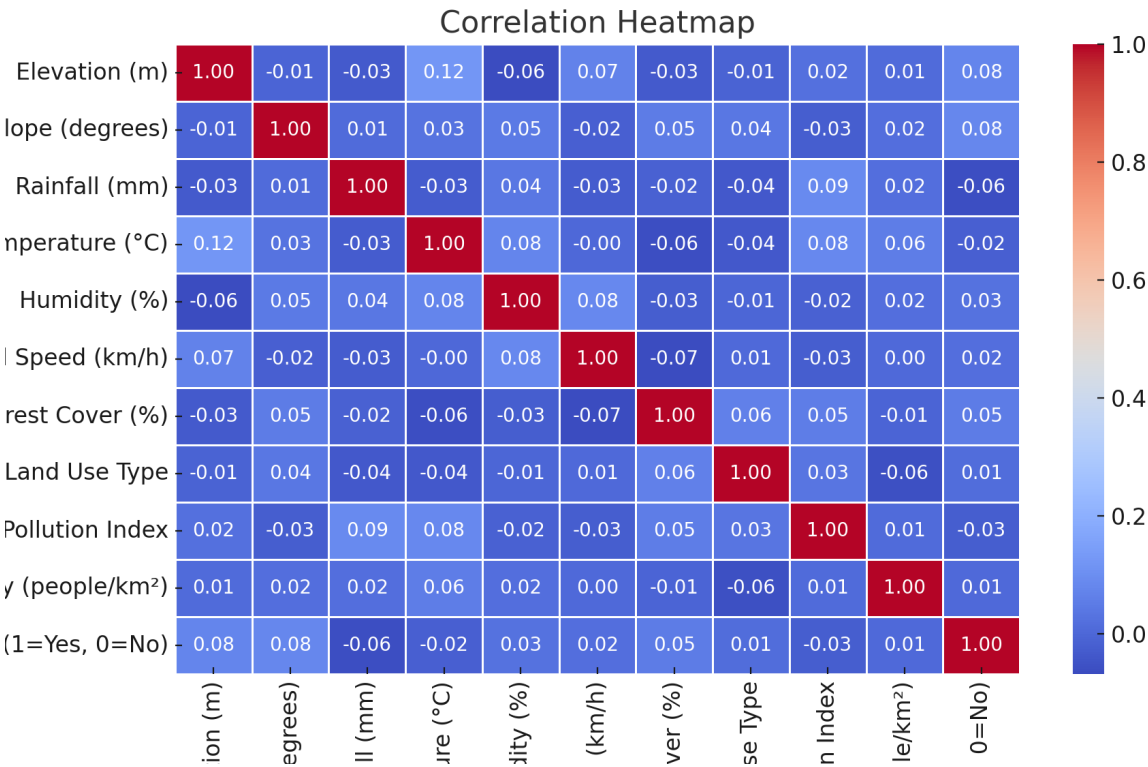
Project Overview

This project analyzes environmental factors in Uttarakhand to assess landslide risks. Data preprocessing, exploratory analysis, and machine learning were used to develop a prediction model.

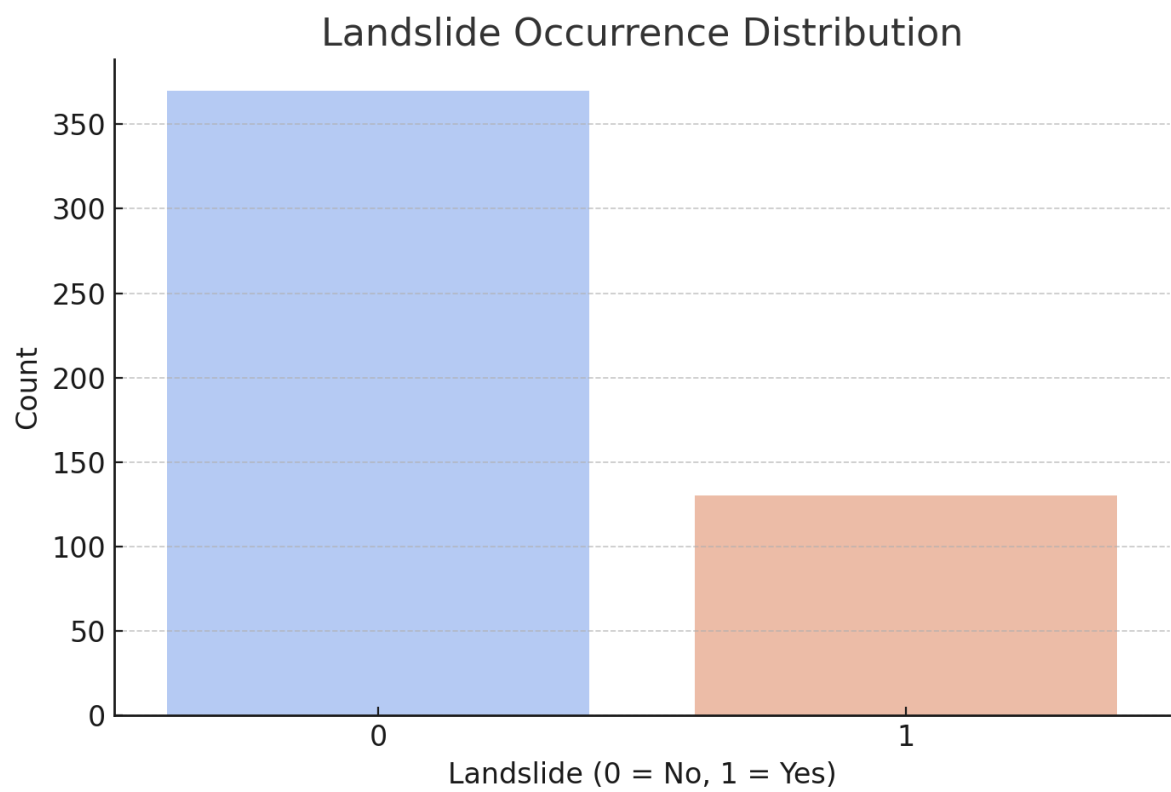
Data Insights

- Total Records: 500
- Features: 10 (excluding target variable)
- Key Environmental Parameters: Elevation, Slope, Rainfall, Temperature, Humidity, Wind Speed, etc.

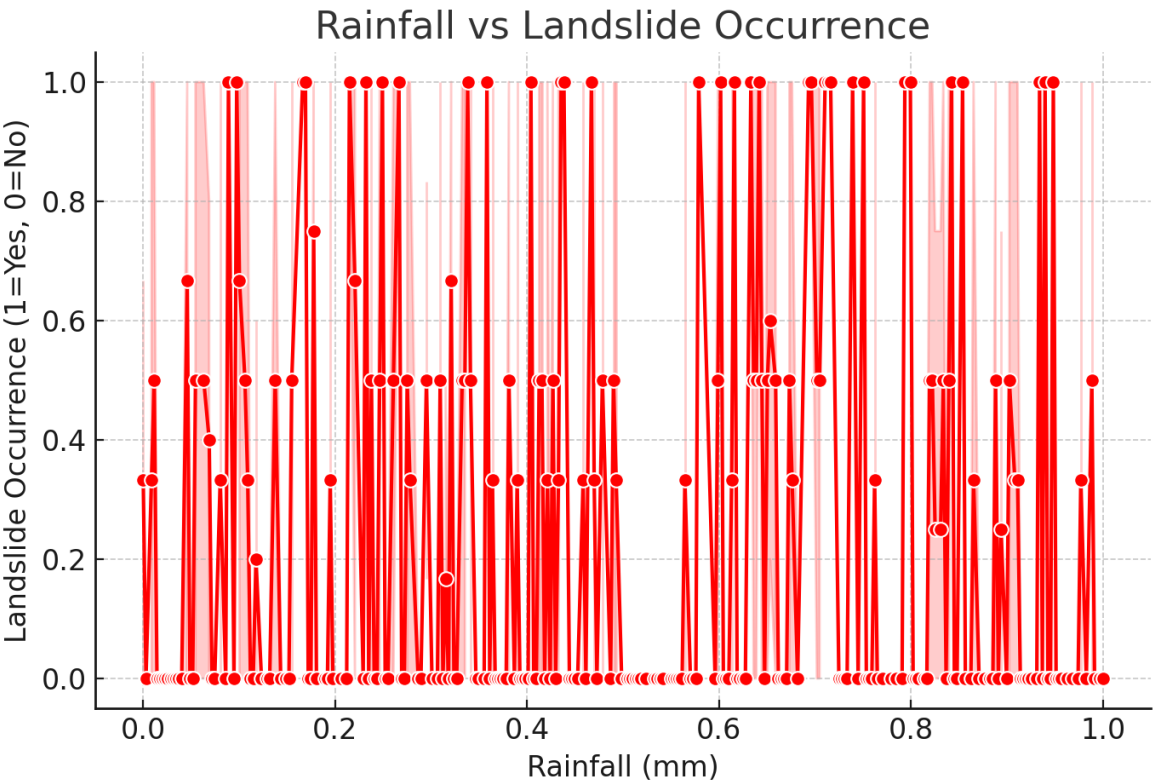
Correlation Heatmap



Landslide Occurrence Distribution



Rainfall vs Landslide Occurrence



Landslide Prediction Model

- Initial Accuracy: 74%
- Accuracy After Class Weighting: 75.00%
- Improved Recall for Landslide Cases

Conclusion

This analysis provides valuable insights into Uttarakhand's environmental conditions and predicts landslide occurrences using machine learning. Future improvements can include real-time data integration and deep learning models for enhanced accuracy.