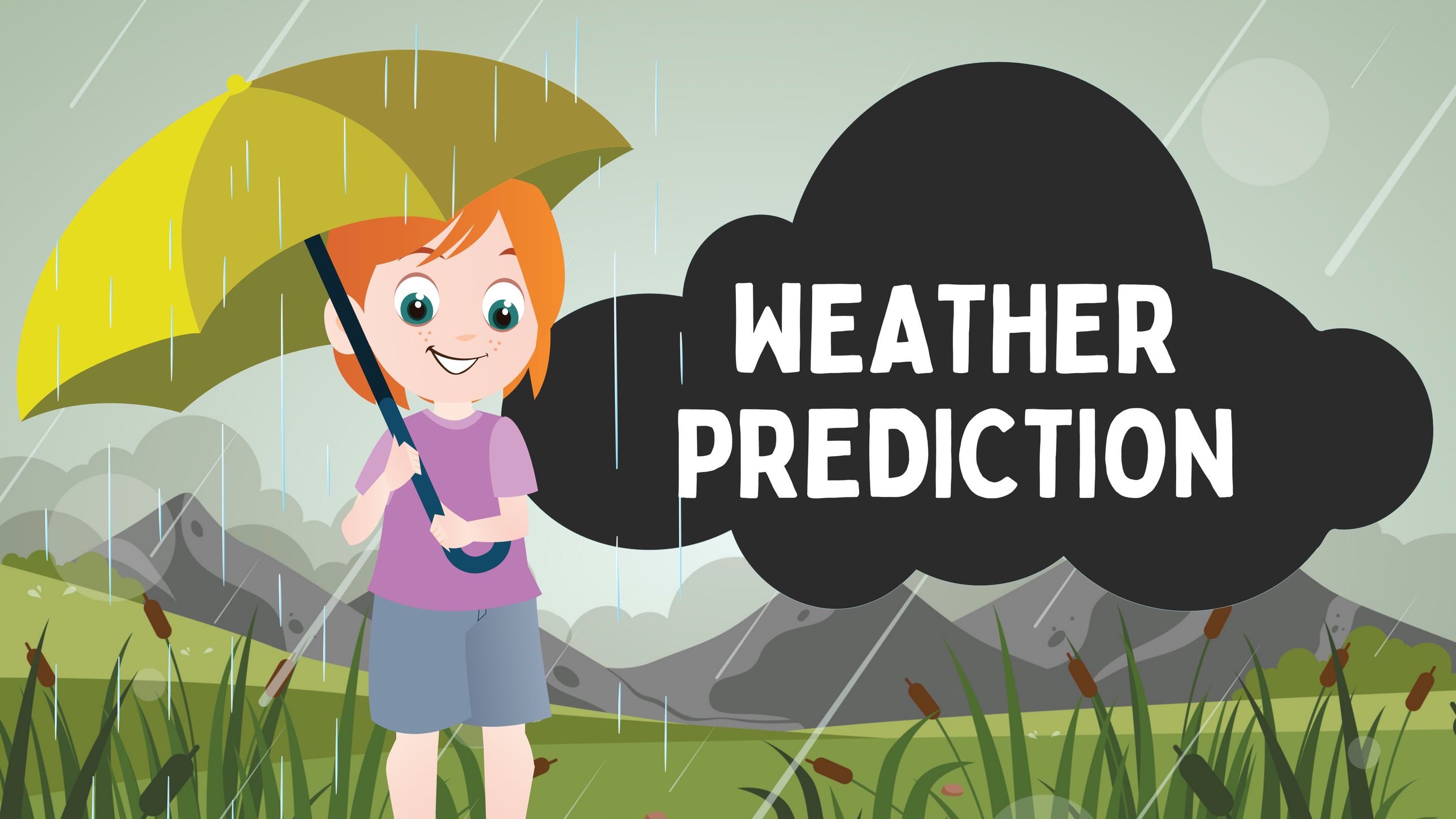

WEATHER
PREDICTION

INTRODUCTION

- Weather Forecasting Using Machine Learning
- Developed a machine learning project for weather prediction.
- User-input parameters used for accurate weather forecasts.
- Utilized decision tree regressor for optimal predictions.
- Streamlit used for interactive user interface.

PROJECT OVERVIEW

- Objective: Predict weather based on user-provided parameters.
- Machine learning techniques employed for accurate predictions.
- Initial exploration of linear regression and random forest.
- Decision tree regressor selected for its superior performance.

DATA SPLITTING AND MODEL TRAINING

- Data split into training and testing sets using test-train-split method.
- Models trained and evaluated using linear regression, random forest, and decision tree regressor.
- Decision tree regressor outperformed other algorithms.

MODEL COMPARISON

- Evaluation of Linear Regression, Random Forest, and Decision Tree Regressor.
- Decision tree captures non-linear patterns, leading to better predictions.
- Graphical representation of prediction accuracy for each algorithm.

INTERACTIVE USER INTERFACE

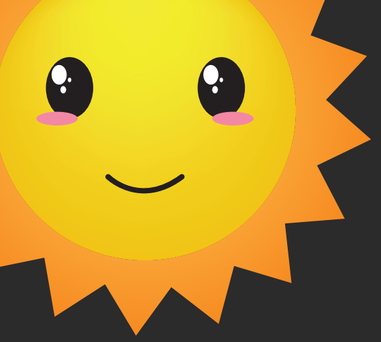
- Developed an interactive UI using Streamlit.
- Users input temperature, humidity, wind speed, etc.
- Decision tree model predicts weather outcomes.
- Predicted weather displayed on the user interface.

MODEL DEPLOYMENT AND FUTURE SCOPE

- Decision tree regressor model serialized using Pickle.
- Serialized model saved into a .sav file for easy deployment.
- Future plans: Include more features, explore ensemble techniques, incorporate real-time data.

CONCLUSION

- Machine learning enhances weather forecasting accuracy.
- Decision tree regressor excels in predicting weather outcomes.
- Interactive interface makes weather predictions accessible to everyone.
- The project showcases the potential of ML in practical applications.



ANY QUESTIONS?

ThankYou!