COOL!

WEATHER PREDICTION MODEL

13 CLIMATE ACTION

MEMBERS

JURUSAN
DATA SCIENCE

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PROBLEM STATEMENT & OBJECTIVES

The model aims to provide reliable predictions for better decision-making in daily activities.

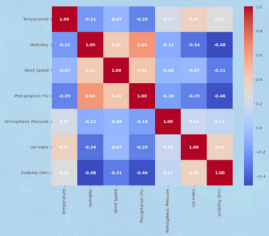
Objectives:

- Analyze historical weather data to identify patterns
- Uses input data to accurately forecast the weather
- Quantify the likelihood of the forecast in percentage for simple comprehension

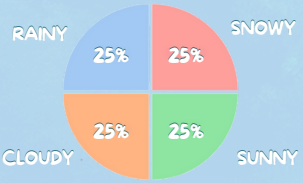
DATA DESCRIPTION

Numerical Variables	Categorical variables
Temperature	Cloud Cover
Humidity	Season
Wind Speed	Location
Precipitation (%)	Weather Type
Atmospheric Pressure	
UV Index	
Visibility (km)	

NUMERICAL VARIABLE CORRELATION



TARGET DISTRIBUTION



FINE TUNING MODEL

SVM Parameter :

- C = 10
- kernel = "rbf"
- gamma = "auto"

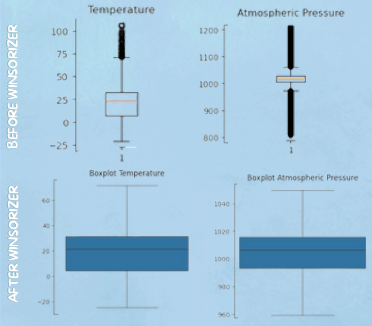
Decision Tree Parameter :

- max_depth = 9
- criterion = "gini"
- max_features = "sqrt"

Random Forest Parameter :

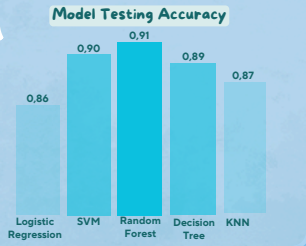
- n_estimator = 200
- max_depth = 5
- max_features = "sqrt"

OUTLIER HANDLING



ML MODELLING

1) Logistic Regression
2) Support Vector Machine #2
3) Random Forest #1
4) K-Nearest Neighbor
5) Decision Tree #3



EVALUATION & ANALYSIS

CLASSIFICATION REPORT

Training	Testing
Accuracy: 0.916	Accuracy: 0.907
Recall: 0.92	Recall: 0.91
Precision: 0.92	Precision: 0.91
F1-Score: 0.92	F1-Score: 0.91

The weighted average is used as our scoring result

CONCLUSION

By using our training data the random forest model has the best accuracy, we were able to accurately forecast the testing data for the weather dataset using classification report based on the analysis above our model is not overfitting nor underfitting