

Members:-

Tanushri Singh

TTS150030

Lawrence Eric Evangelista

LCE160130

Nickolas Ramos

NOR140030

Project Proposal: Weather Prediction and Classification

The preliminary premise for our term project is the prediction of the daily weather forecast in a specific area given feature data such as temperature, humidity, wind speed, precipitation, and time of day. This forecast prediction will be followed by analysis of weather data separated into 3 month periods to categorize the time period as one of the four seasons. Finally, the weather forecast predictions and season classifications will be applied to weather data taken from different areas within the U.S.A. in an attempt to recognize and name an area based on the weather patterns observed in the area.

The above weather predictions and classifications are to be executed using various machine learning algorithms discussed in class such as decision trees, naive bayes, logistic regression, and support vector machines. We plan to apply every algorithm at the beginning of each phase then choose the ones we feel are most suited to the particular prediction or classification phase.

The team's chosen development platform is Python as it contains a variety of libraries such as sklearn, pandas, numpy, and theano that facilitate an ease of machine learning algorithm implementation. Weather data sets will be obtained from Kaggle and public sets made available by the National Oceanic and Atmospheric Association.

During project development the team will be actively looking for any open source code and data sets applicable to our project scope. Should any of the open source code prove integral to the project the team will attempt to incorporate it into the project. If need be, we will consider switching development platforms given an available open source project containing necessary procedures that we are unable to replicate in Python.

Our team will be meeting on a weekly basis to ensure that the project is coming along smoothly. The different aspects of the project will be divided evenly amongst all the groupmates. We plan to have weekly briefings in which we will review weekly progress and take any measures needed to improve our project.