Forecasting Proposal Presentation

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Overview

▷ Forecasting focuses on creating a statistical model from data and then using it to predict future trends based on the past data.

▷ Since last semester, we have looking at adopting a platform called Jupyter with the Python programming language to do analysis.

▷ This semester, we're planning to learn more about Python and Jupyter, and will use machine learning algorithms to make predictive statistical models.

Goals

▷ Learn a wide breadth of machine learning algorithms to begin to make predictions for weather trends.

▷ Validate SCEL's weatherbox data
  WeatherHawk
  HNEI

▷ Document the forecasting team's progress

Learning Expectations

▷ More regression algorithms

▷ Correlation and cross-correlation

▷ Methods of validating data

▷ Python/Jupyter

▷ Possibly visualization and graphing of models/data

Progress

▷ Went over previous documentation

▷ Regression & Model Validation

   Linear regression

      Setup of linear model

      Formula for optimal model parameters

   K-nearest neighbors regression

   Cross validation, k-fold

▷ iPython/Jupyter Tutorial

   Basics, Pandas, Linear Regression, K-Nearest Neighbors

Potential Problems

▷ Time scheduling
▷ Setup of the WeatherHawk
▷ Lack of familiarity with Python
▷ Catching up with statistics knowledge

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Questions?