AM207 Final Project

A dive into Bayesian Weather Modelling

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Abstract

Statistcal weather modelling has a long tradition. In this project we apply different methods in a Bayesian context on historical weather data. Using a simplistic approach we implement and test Bayesian models based on a network topology (Bayesian Networks) and time series based models on weather measures like temperature, pressure or precipitation. In another modelling approach we investigate a hidden markov model on weather events like rain, snow or fog. Statistical Inference based on this models has a wide range of possible applications. In this project we try to infer values for either missing data points (i.e. when measurements are not sufficient) or for missing stations / points.

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