

1154-60-2097      **Nguyet Nguyen\*** (ntnguyen01@ysu.edu), Youngstown State University, and **Paa Kwesi Mensah**, Progressive Insurance, Cleveland Ohio. *Hidden Markov Model for Weather Forecast.*

A Hidden Markov Model is a stochastic tool for representing the probability distribution over sequences of observations. The machine learning model has been extensively used in areas such as speech recognition applications, predicting economic regime and quite recently in the field of weather forecasting. In this talk, we use the Hidden Markov Model for multiple observation sequences of weather data. First, we choose the number of states for the hidden Markov model by using the Akaike Information Criteria and the Bayesian Information Criteria. Then, we used the selected model for predicting the weather in some stations in the USA. Last, we compare our predictions to the weather forecast from the National Weather Channel and the actual weather data. (Received September 17, 2019)