

## **ABSTRACT**

In this work we have used the novel methods of Machine Learning to understand the enigma of weather dynamics and further used them to build a predictive model of weather. The structure of weather profile is highly chaotic. This implies that the existence of long range patterns is very rare. Rather, the time evolution is seemingly random and the slightest variation in initial conditions might change the course of the system drastically. Hence it is practically impossible to make any long range predictions. However, in this work we attempt to harness short term signals, which happen to occur frequently, and show how such patterns seem to allow short term predictions to be made with much greater confidence.