

PLAGIARISM REPORT

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WEATHER FORECASTING USING ARIMA MODEL
MONISH KUMAR RAMBA

ABSTRACT
The advances made in the field of weather forecasting have shaped the economy as it is today. From the field of agriculture, where knowledge of weather has helped improve harvest by multiple times, to the field of transportation and travel, or scheduling of any event, or preparing for harsh weather conditions, weather forecasting has made its mark. While complex NWP models are currently employed for forecasting weather, the inclusion of machine learning techniques can help optimize the output and also significantly fasten the process.

The aim of this project is to analyze machine learning techniques that can be employed to identify weather patterns from historical data, identify the trends and seasonality among the data and then based on that make future predictions. ARIMA i.e. Auto-Regressive Integrated Moving Average is a machine learning model that studies time series, identifies its unique features such as stationarity, trends, seasonality, etc. Seasonal ARIMA or SARIMA is a version of ARIMA which recognises seasonality, i.e. repeating patterns in the time series. We will use a dataset of Delhi's hourly temperature conditions

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INTRODUCTION
Weather Forecasting is very essential to a lot of daily tasks. Be it planning for day-to-day tasks, scheduling important events such as festivals, celebrations, etc or in the field of agriculture, it plays a pivotal role. As a matter of fact, we often undermine its importance owing to the advances made by the different meteorological departments in this field. The whole agricultural cycle, involving plantation of crops, irrigation and harvesting are shaped around the weather forecast. The advances made in this field have ensured minimal losses and maximum yield, directly impacting the economy.

It is not only the field of agriculture that works so closely with weather forecasting. Timely warnings of natural disasters have greatly helped in mitigating the loss of lives and property. Consider India, for example, a country prone to cyclones. Without a proper system to forecast incoming cyclones, the coastlines of India would have been long

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