ABSTRACT

As we all know that agriculture depends largely on the nature of soil and the climatic conditions and many a times, we face unpredictable changes in climate like, non-seasonal rainfall or heat waves or fluctuations in humidity levels, etc. and all such events cause a great loss to our farmers and farming, because of which they are not able to utilize their agricultural land to it's fullest. So to solve all such problems, I have build a Machine Learning Model by the virtue of which we can help farmers, optimize the agricultural production, because this predictive model will help them understand that for a particular soil & given climatic condition, which crop will be best suitable for the harvest. There are 7 key factors that I've taken into account which will help us in determining, exactly which crop should be grown and at what period of time, viz. Amount of Nitrogen, Phosphorus and Potassium in soil, Temperature in degree Celsius, Humidity, pH and Rainfall in mm. Tools used: Python & Google Colab. Libraries used: Numpy, Pandas, Seaborn, Matplotlib, ipywidgets and sklearn. Machine Learning Algorithms used: Clustering Analysis and Logistic Regression.