MINI PROJECT – I

(2019-20)

NATURAL DISATER RISK ANALYSIS

SYNOPSIS

TEAM MEMBERS

Sakshi Sharma

(171500032)

Anchal Srivastava

(171500042)

Supervised By

Sonia mam

Assistance Professor

(Department of Computer Engineering & Applications)

INTRODUCTION

Big Data is a field that treats ways to analyse, systematically extract information from or otherwise deal with data sets that are too large or complex to deal with data sets that are too large or complex to be deal with by traditional data processing application software Data with many cases (rows) offer greater statistical power, while data with higher complexity (more attributes or columns) may lead to a higher false discovery rate.

Machine learning is an application of artificial intelligence (AI) that provides systems the ability to automatically learn and improve from experience without being explicitly programmed. Machine learning focuses on the development of computer programs that can access data and use it learn for themselves.

A **risk analysis** is a process to identify potential hazards and analyse what could happen if a hazard occurs. This project of Risk Analysis checks some natural disasters like tsunami, floods, thunderstorm, earthquakes which occurred in past and are going to occur in future. Disaster risk is 'the potential loss of life, injury, destroyed or damaged assets which could occur to a system, society or a community in a specific period of time, determined probabilistically as a function of hazard, exposure, vulnerability and capacity'. Disaster risk is not just about the likelihood and severity of the hazard event but also about what is exposed to that hazard and how vulnerable that exposure is. A severe earthquake in a relatively uninhabited region can be of far less consequence than a relatively minor one near a large conurbation.

The project of Risk Analysis uses big data technology so that we are able to find the chances of disaster occurring in future prospects by analysing the previous amount of data. In Big Data Technology, we use Spark as a tool and in risk analysis some machine learning algorithm will be used.

About The Project:

The basic task in risk analysis is to predict the chances of a disaster in a month at a particular place. This require the dataset of previous years which are in huge amount. In dataset of previous year we analyse the upcoming chances of that particular disaster by applying Linear Regression Algorithm of Machine Learning and we will check the actual time in which that disaster occurs by using time stamp algorithm. So that we will be able to find the correct month of occurring disaster. By doing this we will be able to find the month of occurrence of disaster. We will be making a GUI so that user can approach to the portal to check the disaster risk rate. In the portal we will ask the user to select the disaster for the risk percentage he is looking for and then show the result.

Motivation:

There are certain points which support the need of such model:

The Economic Cost of the **Social Impact** of Natural **Disasters** states that increased mental health issues, chronic disease and short-term unemployment have resulted from extreme weather events such as bushfires, severe storms, cyclones, floods and earthquakes in Australia.In 2004 Indian Ocean tsunami, Hurricane Katrina in 2005, the Australian bushfires in 2009, the 2010 Haiti earthquake and the 2010 Pakistan floods, the impacts on people and society in affected areas are immediate and overwhelming.

On seeing and analyzing such condition of people we come up with this idea so that people could aware of the disaster which can happen in the coming month and stay prepared.

Future Prospects:

This disaster risk analysis project in future can do the day to day analysis of the disaster. This will help to predict the chances of a particular disaster on a particular place on a specified date.

Project can have more number of disaters like hurricane and tropical storms, drought, tornadoes, etc. for analysis.

Requirements:

Hardware:

- Processor – core i3 or above
- RAM – 8GB or more

Software:

- Windows OS
- Hadoop
- Apache Spark
- HTML
- CSS
- PHP

Technology :

- Big Data
- Machine Learning