NAME: Venkata Sai Madhav Kaza **CMU ID: 793629**

ITC 691 – Information Technology Project

Project Title: CLOUD-BASED application for prediction of number of COVID-19 cases at CMU campus for the future week.

Project Abstract: The project focuses on accurately predicting the number of COVID-19 cases at CMU campus for the future week based on past weeks dataset available at https://www.cmich.edu/firedupforfall/Pages/confirmed-cases.aspx. For predicting the number of cases, various ML and Data Mining algorithms are used. Different algorithms are compared on the accuracy results which will be shown by the end of the 1st month progress. And, the cloud-based application is built using Amazon Web Services Cloud Interface using DynamoDB. Web technologies such as HTML, CSS, JavaScript are used for showcasing the project on a webserver. Integrating the Data Analysis concept and Cloud Computing Concept into one big project is the main idea of this project. The Project is expected to be finished by the end of 4 months period.

Figure: project overview diagram

Diagram Description:

1) **Dataset:** The dataset can be obtained from the CMU campus website where daily analysis has been shown to us at the link and can be used for further mining and prediction of the next week based on the past weeks. https://www.cmich.edu/firedupforfall/Pages/confirmed-cases.aspx**.**

2) **Data Mining:** Various ML and Data Mining algorithms are used for prediction of number of cases for future week. Different algorithms are then compared on the accuracy of the prediction of results by testing done on the algorithm analysis.

3) **Prediction:** Model is trained on the existing dataset and future weeks results are predicted based on the dataset obtained from CMU campus website.

4) **Cloud-Application:** Robust cloud-based application is built for showing the results found in the prediction results with a better GUI and graphs.