**Date**: 30th March, 2022

**Abraca-data**

**Weekly Report**

**Tasks performed in this week**

- Studied the theory of Synthetic Minority Oversampling Technique (SMOTE).

- Implemented SMOTE in python for balancing the dataset.

- Understood the mathematics behind Principal Component Analysis which we are planning to use for dimensionality reduction

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**Outcomes of the tasks performed**

- Initially, the minority class (positive outputs) were simply replicated multiple times. Whereas after performing SMOTE we got the dataset that was balanced and along with that it had less chance of overfitting.

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**Tasks to be performed in the upcoming week**

-To implement PCA for dimensionality reduction.

-To check for the possibility of other (better) methods for dimensionality reduction.