HCDR TRANSCRIPT PHASE – 3

Chandra Sagar: **Introduction**

1) Hello this is group 9 with the HCDR project, with myself, Hanish, Nidhi and Srinivas
2) The contents are as follows.
3) The four p's in this project are as follows:
a) For our completed phase zero this was all about setting the scope of the project, understanding the project requirements and deadlines. The biggest items were identifying the machine learning algorithms and identifying the loss functions and metrics that we wanted to apply for the project.
b) In phase-1 we did EDA and built a baseline logistic regression pipeline and rebalanced the data and calculated accuracy and AUC for that model.
c) In the phase 2 we used decision making trees, random forests and SVM, XGboost
d) In the current and final phase we implemented a deep learning model. We built a binary classification Machine learning model with Python using Pytorch. We did it by building a neural network (NN) of one linear layer, RELU layer, and sigmoid function.

Hanish Chidipothu: **PY Torch Deep Learning Models**

In the current phase we are implementing the multi-layer perceptron for binary classifications. This model also uses the sigmoid activation function and predicts the possibility of class 1. The model was fit for about 75% of data and the remaining 25% is used for evaluation. We further implemented the stochastic gradient descent for exploiting the binary cross entropy loss as metric but the MLP did not go as expected.

Nidhi Vraj Sadhuvala: **Tensor Flow Analysis**

The life-cycle of a PyTorch model has five steps. The first step is to prepare the data. The second step is to define the model. And then the model must be trained. Finally, assess the model before making predictions.
● We completed the first step. We then defined and trained the model.
● To begin with the figure, we show a loss prediction model on a TensorFlow plot. In chart scaling, we ignored outliers. Smoothing was set to 0.6.
● The optimal loss function plot is shown for various numbers of epochs.

Srinivas Vaddi: **Conclusion**

In this stage, we utilized PY Torch to implement the deep learning models. The deep learning model outperformed the classification model and has a higher AUC value than the classification model. As a consequence, our final best models were MLP classification and ridge regression. To further implement and train, the Multi-Task deep learning model may be employed.