SESSION PLAN	
Session Name	Challenges in Machine Learning

Learning Outcomes

- Understand the concepts of Model Interpretability and Data Imbalance
- Know the different types of sampling
- Understand how to handle imbalanced datasets
- Understand how to handle small datasets
- Know when to use the different classifiers

Prerequisites for the Student

- Challenges in Machine Learning - Go through the concept and solve the tasks and assessments.

Student Activities

- Discuss with the Mentor what you have learned.
- Overview of Challenges in Machine Learning
    - Different error metrics
    - Dealing with Imbalanced data
    - Oversampling & Undersampling
- Blog on handling imbalanced data: https://www.analyticsvidhya.com/blog/2017/03/imbalanced-classification-problem/
- What to do with small data https://medium.com/rants-on-machine-learning/what-to-do-with-small-data-d253254d1a89
- Ask students Why we need to handle imbalanced data?
- Practice problem on Challenges in Machine Learning
    - Refer the GitHub repo for problems
- Code Along
- Questions and Discussion on doubts - AMA

Next Session

- Concept - Support Vector Machine
- Key topics to be highlighted - highlight where they would need to spend more time and importance w.r.t Data Science.
    - The intuition behind support vectors
    - Working of support vector machines
    - Soft margin vs Hard margin
    - Different types of Kernel
    - Multiclass SVM