DSE 3159 DEEP LEARNING LAB PROJECT

October 2022

PHASE 1	**Steps**	**Deliverable**	**Dates**
WEEK 8	• Define the problem statement. • Meta data of Data set • Exploratory Analysis • Preprocessing pipeline specific to data • Define Project Objectives	Report (soft copy)	Sept 26th to Oct 1st

PHASE 2.1 WEEK 9	• Literature review to identify models to be implemented
	• Pros, Cons of each model
	• Shortlist models for implementation
	• Define baseline model
	  ○ If No structure -> fully connected
	  ○ If Spatial structure -> convolutional
	  ○ If Sequential structure -> recurrent
		Report (soft copy)	Oct 3rd to Oct 8th

PHASE 2.2 WEEK 10	• Define working end-to-end pipeline • Determine your goals—what error metric to use, and target value. • Ex: Accuracy, Coverage, Precision , Recall etc • Diagnose performance and optimization curves • Based on findings gather new data, adjust hyperparameters (learning rate, number of layers etc), or change architecture	Python notebook with proper documentation	Oct 10th to Oct 15th

PHASE 3 WEEK 11	• Deployment in app/cloud
	• Tabulation and visualization of results in terms of performance and accuracy , roc /prc etc
	• Result analysis
	  ○ Comment on accuracy, performance
	  ○ Reasoning about hyperparameters
	• Conclusion
		Report (soft copy)	Oct 24th to Oct 31st

1. **Recommender Systems**
2. **Time Series Prediction**
3. **Finger print Biometrics -**
4. **Audio Deep Learning**
    1. Audio Classification – using spoken digits
    2. Audio Classification – using audio MNIST
    3. Audio Classification – using urban sounds
    4. Audio processing - covid cough analysis
    5. TensorFlow Speech Recognition Challenge