

General Aeronautics Pvt. Ltd.
Assignment for Intern Selection Process

Maximum time to complete assignment: 2 days

- 1) Both questions in the assignment are compulsory.
- 2) Write detailed description for every step.
- 3) Theoretical explanation and coding, both will carry equal weightage while evaluation.
- 4) Submission will include a folder having name of candidate containing program files (.py) & inference files (.pdf) for Q1. & Q2.
- 5) Send submissions to mail id: atharva.kadethankar@generalaeronautics.com

Q1. To predict if it will rain tomorrow in XYZ country using suitable ML approach.

Objective: To apply Data science, data analysis and machine learning on a sample problem for classification (Yes/No)

Dataset: Attached in the corresponding mail (.CSV).

Steps to follow:

- Install and import required libraries
- Download dataset and import it using appropriate libraries
- Perform basic descriptive analytics on the data
- Visualize data for patterns and identify critical features impacting the decision
- Prepare data for training - data cleaning, data normalization, data encoding, train/test split, etc.
- Train data using your Choice of Classifier
- Evaluate and improve model performance
- Write inference based on the results

Q2. Train a deep learning classification model for classes in MNIST Handwriting dataset.

Objective: To apply Data science, data analysis, computer vision and machine learning/deep learning on a sample problem for classification (multi-class classification).

Dataset: Import dataset using following commands,

```
# example of loading the MNIST dataset

from tensorflow.keras.datasets import mnist

# load dataset

(trainX, trainy), (testX, testy) = mnist.load_data()
```

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