PHASE 1

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The Weightage for term project is as follows:
phase 1 would be 20%
Phase 2 would be 40%
Phase 3 would be 40%, it will include the in class presentation.

Data description:

Naval Air Training and Operating Procedures Standardization (NATOPS) Dataset.

- 6 of 24 body-hand gestures used when handling aircraft on the deck of an aircraft carrier
- Six classes of actions:

I have command; All clear; Not clear; Spread wings; Fold wings; and Lock wings.

- The data is generated by sensors on the hands, elbows, wrists and thumbs.
- Three coordinates for each locations, meaning there are 24 dimensions in total.

Tasks:

1. Read the data:

Read the given files in the original data folder NATOPS.zip, each .arff file is one dimension of the multivariate data, which includes all samples (rows) and all time steps (columns).

2. Put all samples in one big table:

Combine all dimensions in one big table (time steps * features) with multiple rows corresponding to the same sample id (sid). The output file should be in the format of CSV file.

3. Keep the original split of train and test

The training and testing data are pre-split, create a new column to identify this in the final single file containing all the data.

4. The final step

The final table generated should be displayed as two outputs:

- Save the table as a csv file.
- Print the first 5 rows with column names in the program.

Grading Criteria:

Full grade(20%): The final table contains all the mentioned data fields.

Half grade(10%): Able to read the data from .arff files and interpret the data.

Submission:

Submit the notebook as .ipynb file or .py file.Upload this file on blackboard in the Phase1 section.