EE650 Assignment: Paper 1

StressID: a Multimodal Dataset for Stress Identification

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Code Implementation

The already available code in one of the GitHub repositories does not run as it is outdated (uses a lot of deprecated methods). It throws a number of errors even after configuring multiple versions of the libraries.

Hence, the code had to be self-written to perform a similar function.

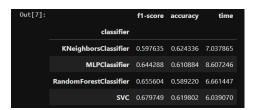
Dataset

The features of audio, video, and physiological signals were available in the form of CSV files, which contained vital measures/extracts and some hand-crafted features from audio and video signals.

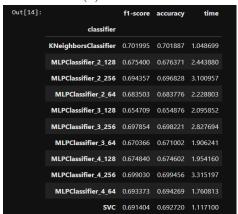
The big missing chunk of the dataset is the labels/ground truths of the stress rating provided by the participants themselves during the creation of the dataset. The 'self-assessment.csv' and 'labels.csv' files are unavailable. Hence, a similar dataset (with similar format, unique values, and distribution) was manually created, and the code was implemented on it, which affected the accuracy.

Results

All the results are also displayed in the accompanying .ipynb notebooks.



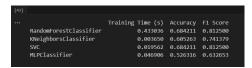
(a) Result 1



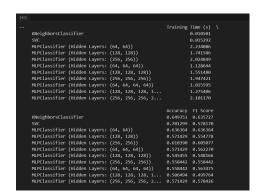
(c) Result 2



(e) Result 3



(b) corresponding



(d) corresponding

	Training Time (s)	Accuracy	F1 Score
RandomForestClassifier	0.625792	0.438710	0.400000
KNeighborsClassifier	0.003141	0.438710	0.423841
SVC	0.070030	0.509677	0.000000
MLPClassifier	0.023736	0.503226	0.000000

(f) corresponding