CS F320
Foundations of Data Science
II Semester 2021-22
Assignment #1
Weightage: 10% (20 Marks)
Due Date: 15th November 2021

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Feature Extraction: Image, Video, Audio, & Text Data

The problems which we try to solve using data are becoming more and more complex with each passing day. Now-a-days, most of the Data Science applications require us to work with data coming from multiple modalities like Images, Videos, Audio, & Text in addition to standard numerical data. It becomes important that you know how to work with different kinds of data. In this assignment you are required to extract features from different types of data.

As part of this assignment, study the best representations (features) of Images, Videos, Audio, & Text data and learn how to extract them. Discuss different representations for each modality and do a comparison.

Also, explore tensor representation of data and learn about Google's Tensor Processing Units (TPUs) and also read about TensorFlow.

You can work in groups of maximum two (02) students.

You can implement the same in R or Python!

You will be evaluated based on your understanding of underlying concepts.

What you need to submit?

- A detailed report
- Datasets used
- Code file(s)

Submit everything as a single zipped file!

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01st Nov. 2021