**CS5720**

**Neural Networks & Deep Learning - ICP-9**

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**Github Link**: <https://github.com/csk17/NNDL_ICP9>

Lesson Overview:

In this lesson, we are going to discuss types and applications of Autoencoder.

Programming elements:

1. Basics of Autoencoders
2. Role of Autoencoders in unsupervised learning
3. Types of Autoencoders
4. Use case: Simple autoencoder-Reconstructing the existing image, which will contain most important features of the image
5. Use case: Stacked Autoencoder

In Class Programming:

* Add one more hidden layer to autoencoder.
* Do the prediction on the test data and then visualize one of the reconstructed version of that test data. Also, visualize the same test data before reconstruction using **Matplotlib.**
* Repeat the question 2 on the denoisening autoencoder.
* plot loss and accuracy using the history object.

**Solution:**

* These are the ouput screenshots of the following code:

Graphical user interface, text, application, email

Description automatically generatedApplication

Description automatically generated with medium confidenceGraphical user interface, application

Description automatically generatedGraphical user interface, text, application

Description automatically generatedGraphical user interface, text, application

Description automatically generatedGraphical user interface, text, application

Description automatically generatedGraphical user interface, chart

Description automatically generatedText

Description automatically generatedText

Description automatically generatedA picture containing table

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