PMDS603P Deep Learning Assessment 4

October 2025

Question 1: Collect the dataset regarding ECG (Electrocardiogram) signals of different subjects given in the moodle platform and prepare an autoencoder that can perform anomaly detection. The dataset you see has two classes, normal (0) and abnormal (1) ECG signals. The labels are also provided in the same csv file. The task is to construct an autoencoder that can detect an abnormal ECG signal. Train an autoencoder on the normal ECG signals. Then use a suitable method using reconstruction error to flag abnormal ecg's. And you can check with your test set data the outputs.

Question 2: Include sparsity regularization and compare your results.