This is an overview on my work on ECG signal prediction. I will be editing this from time to time. ECG signals are electrical signals generated by the heart that are recorded by an electrocardiogram (ECG). An ECG uses electrodes attached to the chest, arms or legs to record the heart’s electrical activity. ECG signals can help diagnose heart conditions such as irregular heartbeats, heart attacks etc. and in the case of this research, covid-19.

Data used for this study is gotten from open-sourced platform, Kaggle.   
<https://www.kaggle.com/datasets/marcjuniornkengue/ecg-heartbeat-covid-19/data>   
<https://www.kaggle.com/datasets/marcjuniornkengue/covid500hz>

Referenced works

1. Disentangled autoencoders <https://www.mdpi.com/2079-9292/12/7/1606>
2. Variational autoencoders <https://www.sciencedirect.com/science/article/pii/S266669362300110X>

My project topic would be “ECG Signal Based Variational AutoEncoder for Early Detection of Covid-19 in Patients”

The problem statement.

Model Architectures:

1. Variational autoencoders
2. Vgg
3. Resnet
4. Transformer

Evaluation Metrics

1. Rmse
2. Snr
3. Precision
4. recall

Optimizers

1. Adam
2. Sgd
3. Rmsprop
4. Ada grad