

Please install required libraries mentioned in requirements.txt if needed:

pip install -r requirements.txt

dataset_generator.py is used to generate train and test data of varying sequence length and places it in /datasets directory.

Datasets of varying sequence length can be created by using arguments mentioned under main function in dataset_generator.py

train.py implements Train class that is responsible for training models using data in /datasets directory. Trained models are stored in /trained_models.

Before proceeding with training please make sure that 'sequence_length' is set to the right value in settings.py. For example 'settings.sequence_length' should be set to 150 when using training and test data with 150 sequence length.

Four models have been trained with following sequence lengths' data.

Sequence lengths: [150, 300, 400, 600].

These models can be found in /trained_models directory.

Keras tuner is also implemented which tunes gradient clip values, learning rates and momentum to be used with optimizer. 'tune_hyper_parameters' should be set to False in settings.py when training normal models.

After training each model, it is evaluated on test data automatically. Mean loss and rmse are displayed for the test data. Moreover, 20 random examples are picked from test data and their corresponding label, prediction, rmse are printed.

Train and validation loss and metrics plots are also saved for each model in the model directory which can be used to see if the model is overfitting or not.

Evaluation results are shown in "evaluation_results.pdf" file.