Assignment-1 for Edge Computing CS665

(31st October 2023)

Informer - References

Paper

Github

HuggingFace

Datasets

Datasets can be obtained from the links provided in the paper or from the following link All Datasets

---

Problem Statements

[Q.1] Datasets

Extract the datasets provided by the authors (ETT, ECL and Weather) and visualize each dataset in the form of a plot.

[Q.2] Univariate LSTF

- Train the informer model on univariate data.
- Plot and compare the test results with Table (1) in the paper.
- Generate and plot the future forecast upto 10 times the sequence length used.

[Q.3] Multivariate LSTF

- Train the informer model on multivariate data.
- Plot and compare the test results with Table (2) in the paper.
- Compare your results with the univariate version on the test-set.

[Q.4] Probsparse v/s Canonical self-attention

Train two informer models - one with Probsparse attention and one with Canonical attention and compare the results with each other on the test-set. You may use any one of the datasets.

NOTE:

- Choose the two lowest sequence lengths for respective datasets.
- Use both MSE and MAE metric for comparision.
- Use the same architecture and hyperparameters as in the paper.
- You should maintain the train/val/test split for each dataset - that can be found in section (4) in the paper.

Submission Mode:

- Submission files should include experiments and results in a jupyter notebook, one for each problem (like 1.ipynb, 2.ipynb etc).
- Notebooks should be clearly labeled at each step (using markdown cells) and results obtained should be highlighted.

For this assignment

- put the submission files under folder "A1" in your github repository.
- submit the links to TA on submission date (Monday 6th Novenber 2023).
