

Initial idea

Xutianhao

February 2021

1 Direction

- 1.LSTM+Attention Model
- 2.BERT
- 3.GNMT

2 LSTM+Attention Model

Temporal Pattern Attention for Multivariate Time Series Forecasting

TPA-LSTM:

For multivariate time series forecasting (Multivariate Time Series) The traditional attention mechanism will select the relevant time step timesteps weighting The attention mechanism in the paper (Temporal Pattern Attention) will choose the relevant variable weighting

COMET is a new neural framework (that is, set of algorithms) for training and running multilingual MT evaluation models. That's a fancy way of saying it's a new system that can help evaluate and predict the quality of machine-generated translations for many different languages.

3 BERT

Quality estimate as an evaluation

In the NMT era, BLEU has lost our trust. 1. It has no significant correlation with human judgment; 2. It also fails to explain the famous synonymous, paraphrase and clause rearrangement features of NMT; 3. It completely ignores the meaning and structure of the sentence.

All previous attempts to use more meaningful but equally convenient (in terms of speed and universality) metrics as new standards have failed. Therefore, BLEU is still widely used as an evaluation and optimization function, not only in academia, but in many industries. The same is true in applications.

However, now: The availability of pre-trained models (such as BERT) and their success in the field of quality assessment have opened the way for a new

generation of translation quality metrics. Or, Unbabel is working on a new internal metric called "Comet", which adapts the predictor-estimator architecture of the open-source quality estimation framework OpenKiwi to train sentence-level MTQE metrics based on neural references. COMET shows a high degree of correlation with many types of human judgments (such as multidimensional quality measurement (MQM), edit distance, and direct evaluation score).

4 GNMT

As previous report