

FedBERT

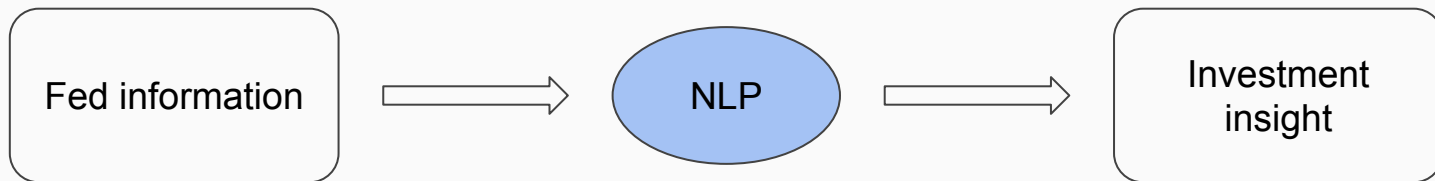
BERT goes to the central bank

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Why did we choose it?

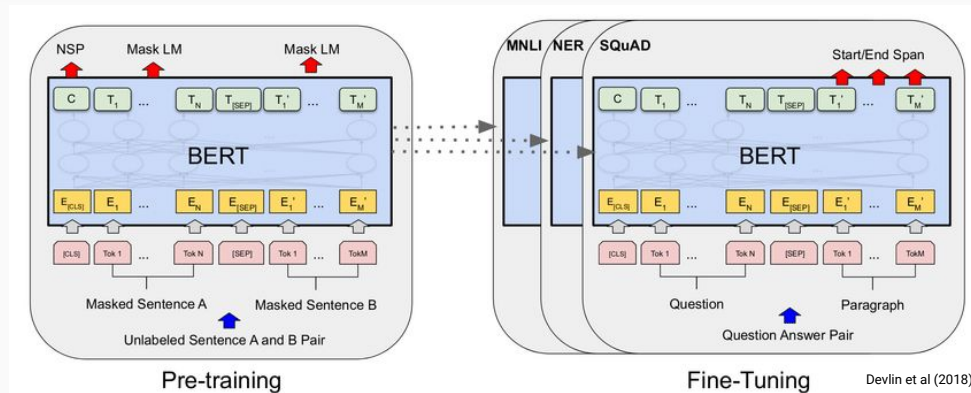
- NLP is hot
- “Don’t fight the Fed” is the new mantra of investing
- Most valuable Fed information - speeches and minutes



Project description

- Start with the same data as the BERT/FinBERT model.
- Evaluate the performance of the model in speeches by Fed board members, statements and minutes.
- Fed communication is mainly about monetary policy, so an improvement on model performance is expected.
- Compare time changes in Fed's language. What has been the impact of the zero lower bound or the financial crisis?

BERT (Bidirectional Encoder Representations from Transformers)



- State-of-the-art performances, published by Google in 2018
- Bidirectionality gives context, training done by masking out words & predicting next sentence. Transformer-based, works on long sentences.
- Allows fine-tuning for specific tasks on the same model once pre-trained.

FinBERT

1. FinBERT Prime - Train BERT from scratch using 10K filings from the years 2017, 2018, and 2019, covering 4392 companies
2. FinBERT Pre2K - Training BERT from scratch using 10K filings from 1998 and 1999, covering 4786 companies
3. FinBERT Combo - Training BERT from the last checkpoint of BERT-Base Uncased using all 10K filings along with Wikipedia and Book data.

Performance Measures - Prediction of masked words and next sentence prediction. (Penpen proved that BERT is the jack of all trades)

Summary

- Fed speech very important in finance
- Easily obtainable data
- FinBERT provides guidelines on training
- Often analyzed by human, opportunity for NLP
- BERT pre-training allows flexible end goals
 - Word embeddings by themselves
 - Use the embeddings as input for downstream tasks

Q&A