

Lessons from Sentence Encoders

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Unsupervised Encoder

- Sentence-based language models
 - Leveraging sentence sequences
 - Maybe the only unsupervised signal in running texts
- A structural model is required
 - LSTM for skip-thought
 - The same characteristics for other models
- Implementation is important
 - Model setting is critical

Supervised Encoder

- Natural language inference (NLI) is the most common task
 - Also used as a benchmark evaluation for all encoders
- A proper objective is required
 - Supervised learning for sentence representation
- Data nature decides the performance
 - There is not enough annotated data to train a universal encoder
 - Encoders may stick to particular tasks

Hw6

- Use the pertained word2vec model from Hw4
- Apply them to the SICK data and obtain the vectors for each sentence
 - Train and test (on canvas)
 - Use the average embedding of all words to present the sentence
- Train a logistic regression model on the vectors for NLI
- Compare with the skip-thought
 - <https://github.com/ryankiros/skip-thoughts>
- Submit
 - model.py (the model file, implemented by Keras)
 - readme.txt (report the results, and your analysis)