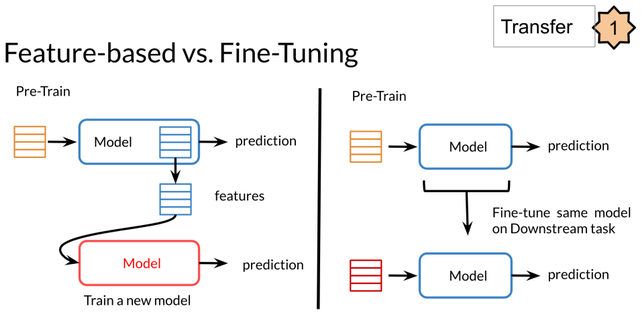
Transfer Learning in NLP

There are three main advantages to transfer learning:

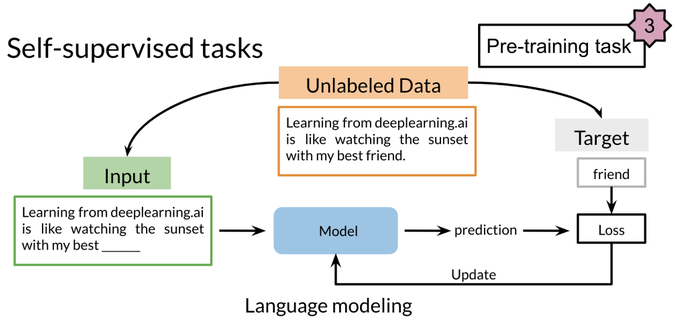
- Reduce training time
- Improve predictions
- Allows you to use smaller datasets

Two methods that you can use for transfer learning are the following:



In feature based transfer learning, you learn word embeddings by training one model and then you use those word embeddings in a different model on a different task.

When fine tuning, you can use the exact same model and just run it on a different task. Sometimes when fine tuning, you can keep the model weights fixed and just add a new layer that you will train. Other times you can slowly unfreeze the layers one at a time. You can also use unlabelled data when pre-training, by masking words and trying to predict which word was masked.



For example, in the drawing above we try to predict the word "friend". This allows your model to get a grasp of the overall structure of the data and to help the model learn some relationships within the words of a sentence.