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Lecture: Word Embeddings

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# Word Embedding Methods

## Classical Methods

- word2vec (Google, 2013)
- Continuous bag-of-words (CBOW): the model learns to predict the center word given some context words.
- Continuous skip-gram / Skip-gram with negative sampling (SGNS): the model learns to predict the words surrounding a given input word.
- Global Vectors (GloVe) (Stanford, 2014): factorizes the logarithm of the corpus's word co-occurrence matrix, similar to the count matrix you've used before.
- fastText (Facebook, 2016): based on the skip-gram model and takes into account the structure of words by representing words as an n-gram of characters. It supports out-of-vocabulary (OOV) words.

## Deep learning, contextual embeddings

In these more advanced models, words have different embeddings depending on their context. You can download pre-trained embeddings for the following models.

- BERT (Google, 2018):
- ELMo (Allen Institute for AI, 2018)
- GPT-2 (OpenAI, 2018)

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