Week 3

Natural Language Processing with Classification and Vector Spaces

Week 3

Discuss this week's modules here.

92 threads · Last post 4 days ago

Go to forum

Vector Space Models

Vector space models capture semantic meaning and relationships between words. You'll learn how to create word vectors that capture dependencies between words, then visualize their relationships in two dimensions using PCA.

Key Concepts

- Covariance matrices
- Dimensionality reduction
- Principal component analysis
- Cosine similarity
- Euclidean distance
- Co-occurrence matrices
- Vector representations
- Vector space models

Less

Lecture: Vector Space Models

Video: Vector Space Models 2 min — Resume

Video: Word by Word and Word by Doc. 4 min

Lab: Linear algebra in Python with Numpy 1h

Video: Euclidean Distance 3 min

Video: Cosine Similarity: Intuition 2 min

Video: Cosine Similarity 3 min

Video: Manipulating Words in Vector Spaces 3 min

Lab: Manipulating word embeddings 1h

Video: Visualization and PCA 3 min

Video: PCA Algorithm 3 min

Lab: Another explanation about PCA 1h

Assignment: Vector Space Models

Programming Assignment: Assignment: Word Embeddings 3h — Due Oct 12, 1:59 AM CDT