



# Regularizing with Synthesized Graphs

Arjun Gopalan





# Absence of a natural graph

No natural graph?

Build a graph!



# Absence of a natural graph

No natural graph?



# Absence of a natural graph

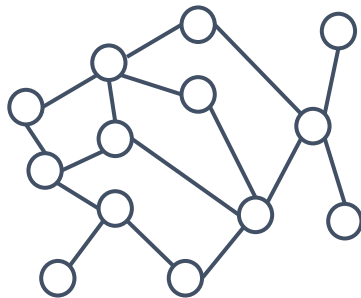
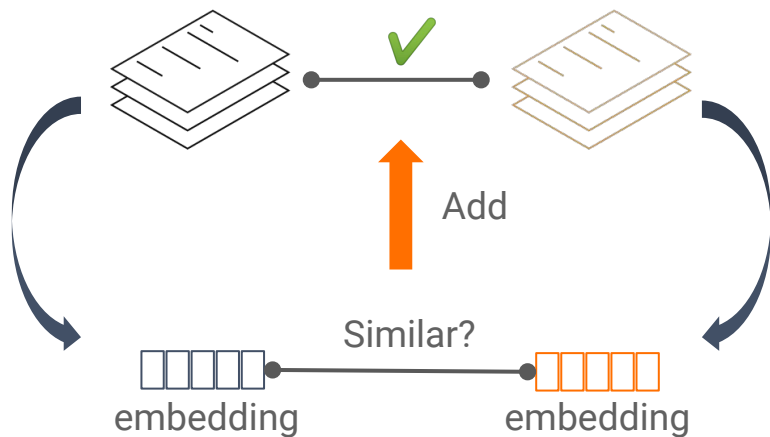
No natural graph?

Build a graph!



# Graph building

➡ Find neighbors using embeddings



Graph



# Graph building



# Graph building



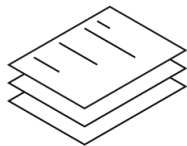
Find neighbors using embeddings



# Graph building



Find neighbors using embeddings

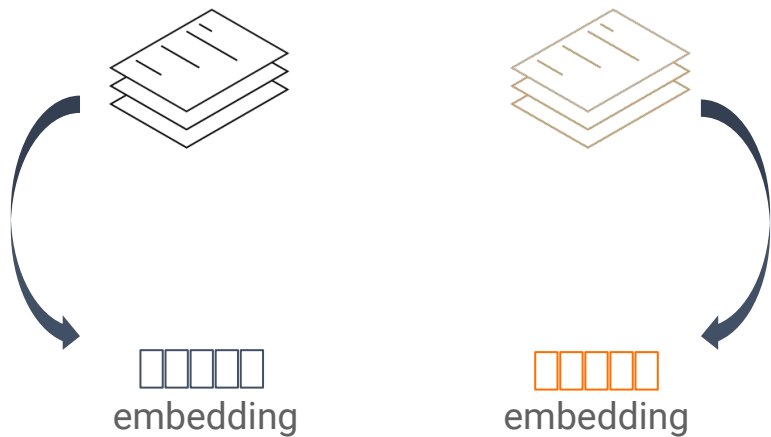






# Graph building

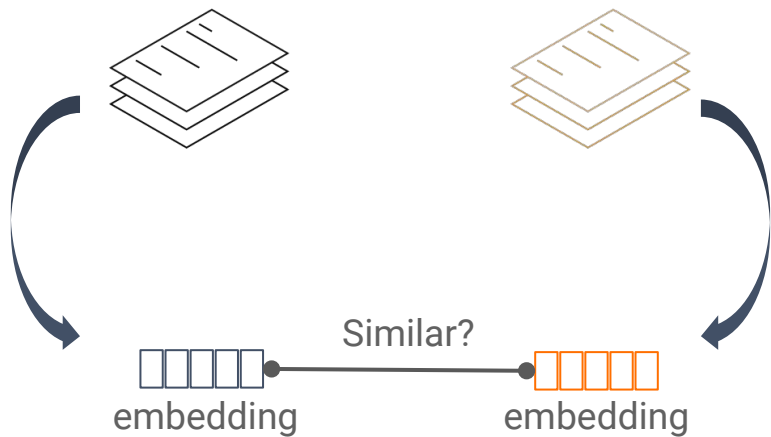
➡ Find neighbors using embeddings





# Graph building

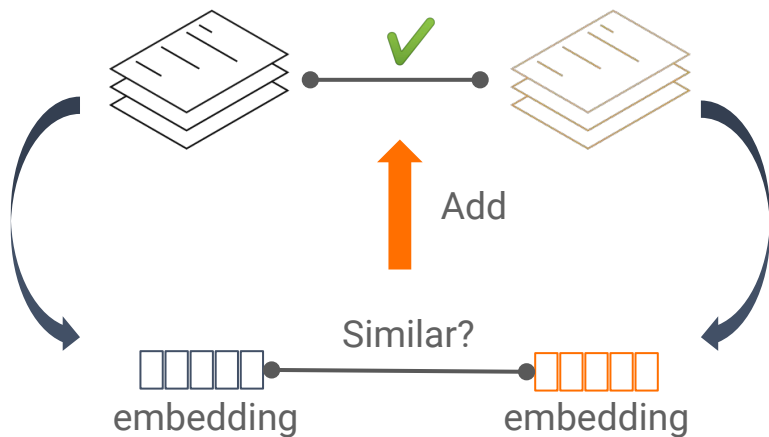
➡ Find neighbors using embeddings





# Graph building

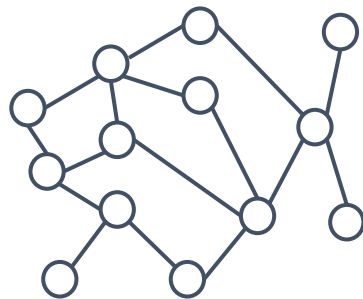
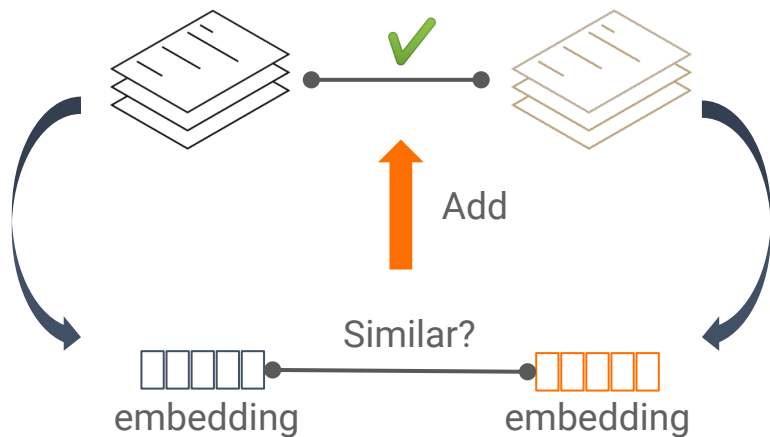
➡ Find neighbors using embeddings





# Graph building

➡ Find neighbors using embeddings

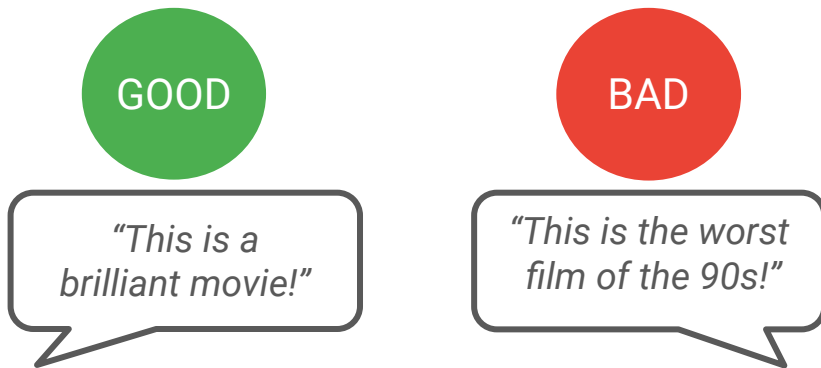


Graph



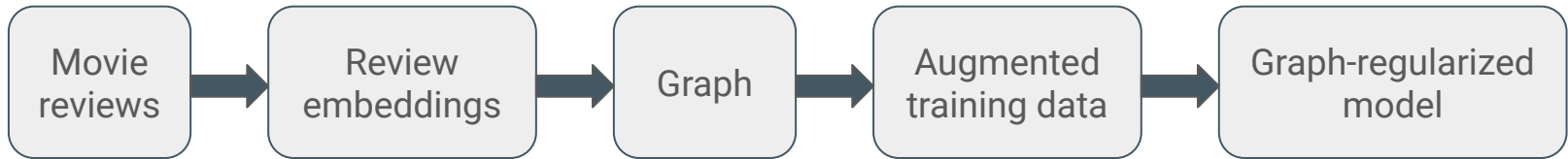
# Example: Sentiment classification

## IMDB dataset





# Graph regularization workflow



[Colab notebook](#)