



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

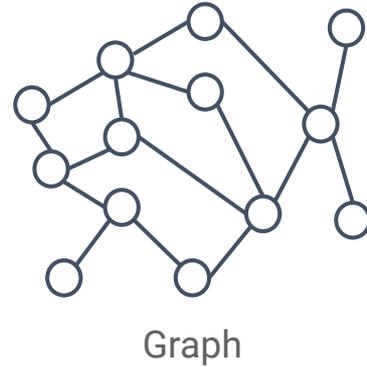
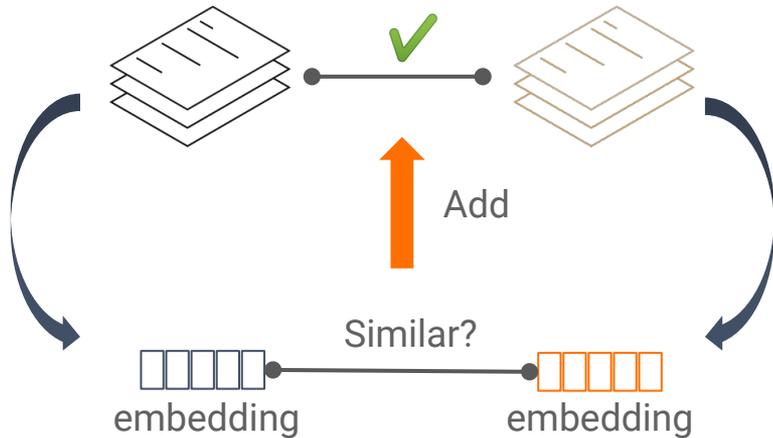
No natural graph?

Build a graph!



Graph building

➔ Find neighbors using embeddings





Graph building



Graph building



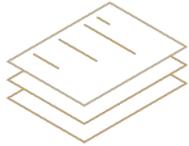
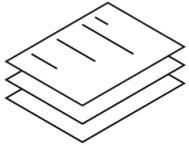
Find neighbors using embeddings



Graph building



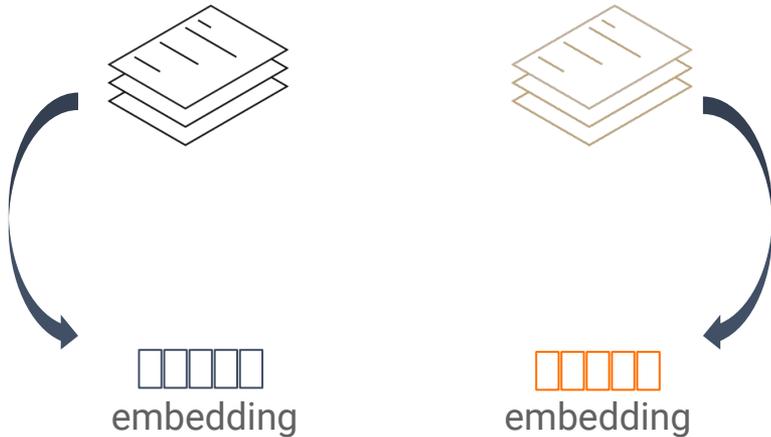
Find neighbors using embeddings





Graph building

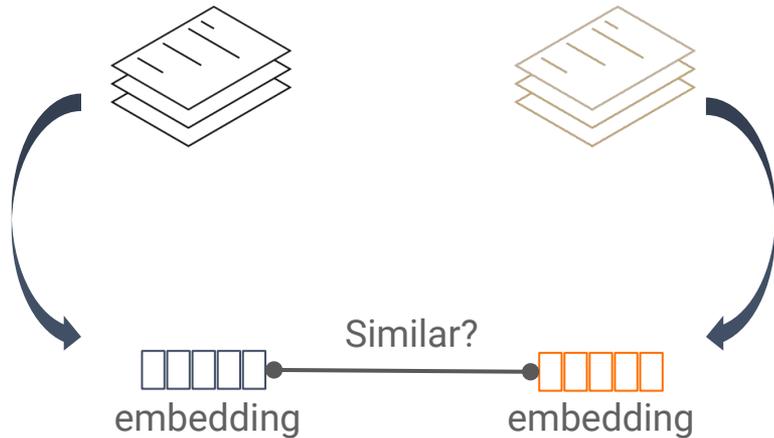
➔ Find neighbors using embeddings





Graph building

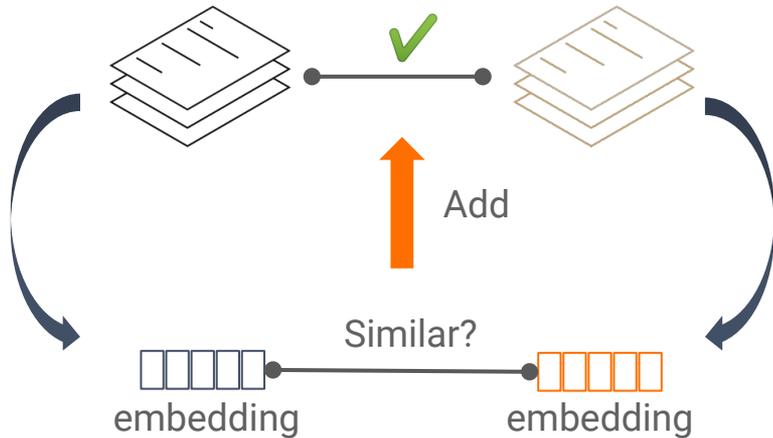
➔ Find neighbors using embeddings





Graph building

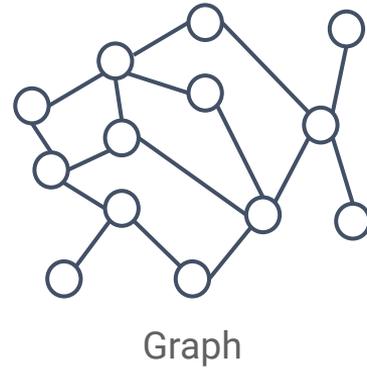
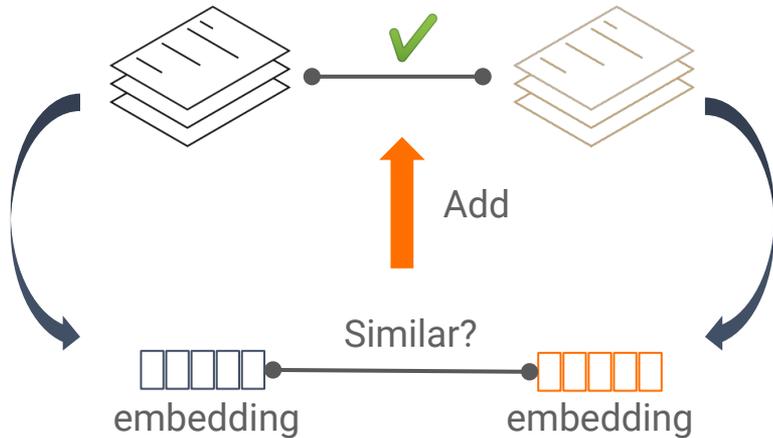
➔ Find neighbors using embeddings





Graph building

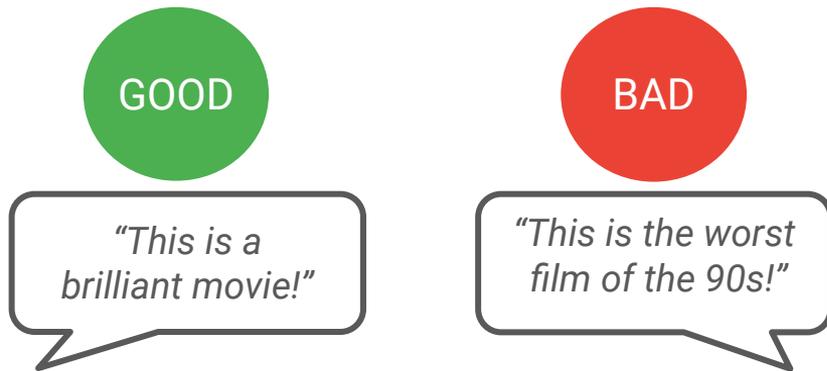
➔ Find neighbors using embeddings





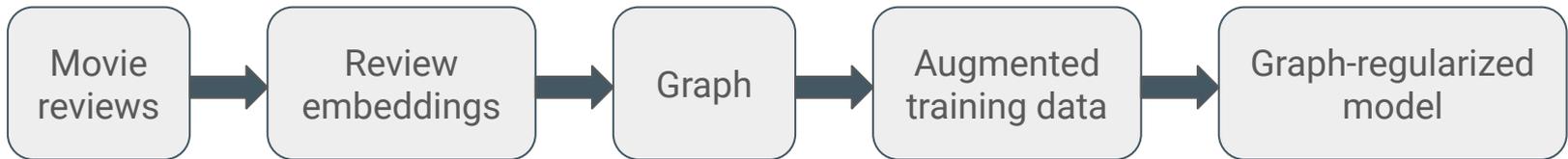
Example: Sentiment classification

IMDB dataset





Graph regularization workflow



[Colab notebook](#)