Layered Graph Embedding for Entity Recommendation using Wikipedia in the Yahoo! Knowledge Graph

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Brad Pitt
American actor and filmmaker

William Bradley Pitt is an American actor and film producer. He has received multiple awards, including two Golden Globe Awards for his act... en.wikipedia.org

Born: December 18, 1963 (age 56), Shawnee, Oklahoma, USA

People also search for
Angelina Jolie
Jennifer Aniston
Tom Cruise
Justin Theroux
George Clooney

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Layered Graph Embedding in a nutshell

Construct embeddings by bias random walks on separate sub-graphs as layers.

- **Embedding Generation:**
  - Wiki-link graph layer
    - Top 10 wiki languages are used.
  - Link-Main graph layer
    - Link appears inside main text extracted with Wikiextractor.
  - Clickstream graph layer
    - Sum last 12 months as edge weights.

- **Candidate Generation:**
  - $knn$ in lg2vec & doc2vec.

- **Ranking:**
  - $lg2vec$ & $doc2vec$ cosine similarity.
  - Pageviews, clickstreams, search-logs.
Results

- Generic recommendations that can be tuned/filter by types and languages.
- Recommendations (almost) 100% powered by Wikipedia.
- Dataset to be made **publicly available** soon.
- #Discuss Session:
  - Modeling & embeddings

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