Simple Recommender Design

Item Feature Vector

- Normal features from image and text (f_i)
- **Suggested:** Encoded features using an Autoencoder
- Embedded (weighted) features ($w^T f_i$)
    - Requires pairs of similar items as training data (not much data needed). The goal is to maximize dot product for the feature vectors of similar items.

Similar Items Search

- ScANN algorithm
    - Two distance measures: dot product & Euclidean distance
    - Is caching required?
    - Can we add a little diversity?

User Recommendation

- Use item clusters from ScANN algorithm. Select top clusters for this user using their history log (item and implicit feedback list). Rank items in the selected clusters based on mean similarity to history log. (Don't forget to cache)
- **Suggested:** Use similar items module on every individual item from user's history log. Rank every chosen item based on mean similarity to history log. (Don't forget to consider diversity)