NDBI021, Lab 1

User preferences, 2/1 ZK+Z,

Wed 12:20 – 13:50 S8

Wed 14:00 – 15:30 SW2 (odd weeks)

matfyz

siret
research group

https://ksi.mff.cuni.cz

Team work

- Create teams of 2-3 persons
- Choose a task to work on (not all teams on one task)
- Present results during next labs

Preference Elicitation v1

- Choice-based preference elicitation for collaborative filtering recommender systems
  https://dl.acm.org/doi/10.1145/2556288.2557069

  - Use reasonable dataset, e.g. recent MovieLens

  - Train matrix factorization (of your choice), not too many factors

  - Implement representatives selection method (as in the paper or some reasonable alternative)

  - Visualize choices + feedback (working demo, but may be quite simple – list titles + call function with feedback argument), iterate k-times

  - Show final recommendations: are they relevant?

Preference Elicitation v2

- Using Groups of Items for Preference Elicitation in Recommender Systems
  https://dl.acm.org/doi/pdf/10.1145/2675133.2675210

  - Use reasonable dataset, e.g. recent MovieLens

  - Cluster data (choose any clustering alg. you prefer)

  - Get tags for each cluster (use the method from paper or any suitable alternative)

  - Select representative examples per cluster

  - Visualize choices + feedback (working demo, but may be quite simple – list titles + call function with feedback argument)

  - Show final recommendations: are they relevant?

Preference Confirmation

- What ingredients preferences to confirm?
  - Use reasonable dataset, e.g. https://www.kaggle.com/shuyangli94/food-com-recipes-and-user-interactions
    - Ingredients importance estimation (TF-IDF – like?)
    - (Optional) recipe-ingredience importance estimation (ingredience in title / description, NLP)
    - (Optional) ingredients similarity

      https://dspace.cuni.cz/handle/20.500.11956/119434, https://dl.acm.org/doi/10.1145/3428757.3429096
  - Good starting point: https://www.kaggle.com/ianbraun/eda-focusing-on-recipe-ingredients
  - Get per-user candidates for confirmation (not all users have to have one)
    - Stable preference of ingredients which are important (e.g. not very common) and e.g. with high rating variance in general
    - Contrastive preference: users (with many ratings) tend to ignore some common ingredients
    - While comparing to similar users, this user's preferences differs in some particular ingredience
  - Show top-results (human readable form -> results verification)
    - Add yourself and verify recommendations for you
    - Alternatively, allow to add users and recommend for them => live testing