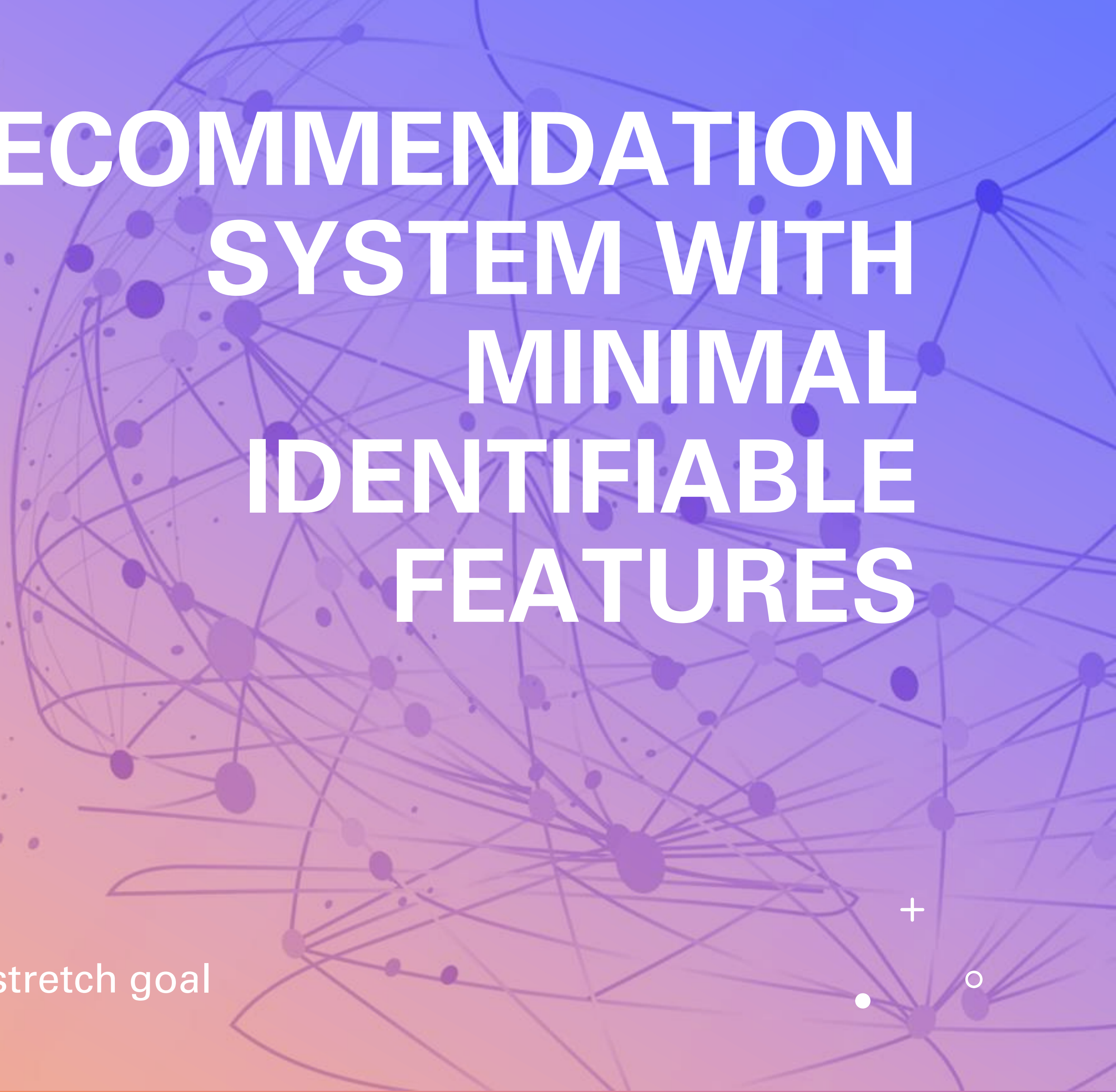
RECOMMENDATION SYSTEM WITH MINIMAL IDENTIFIABLE FEATURES



Exploring the possible feature / stretch goal

Data and Computational workflow

Initial_parameters.json

student_all_interests.csv

clubs_similarity.csv

pipeline.py

populate_dataset.py

club_similarity.py

recommend_clubs.py

AllUBCOClubs.json

clubs_similarity_index.csv

similar_students.csv

club_recommedations.csv

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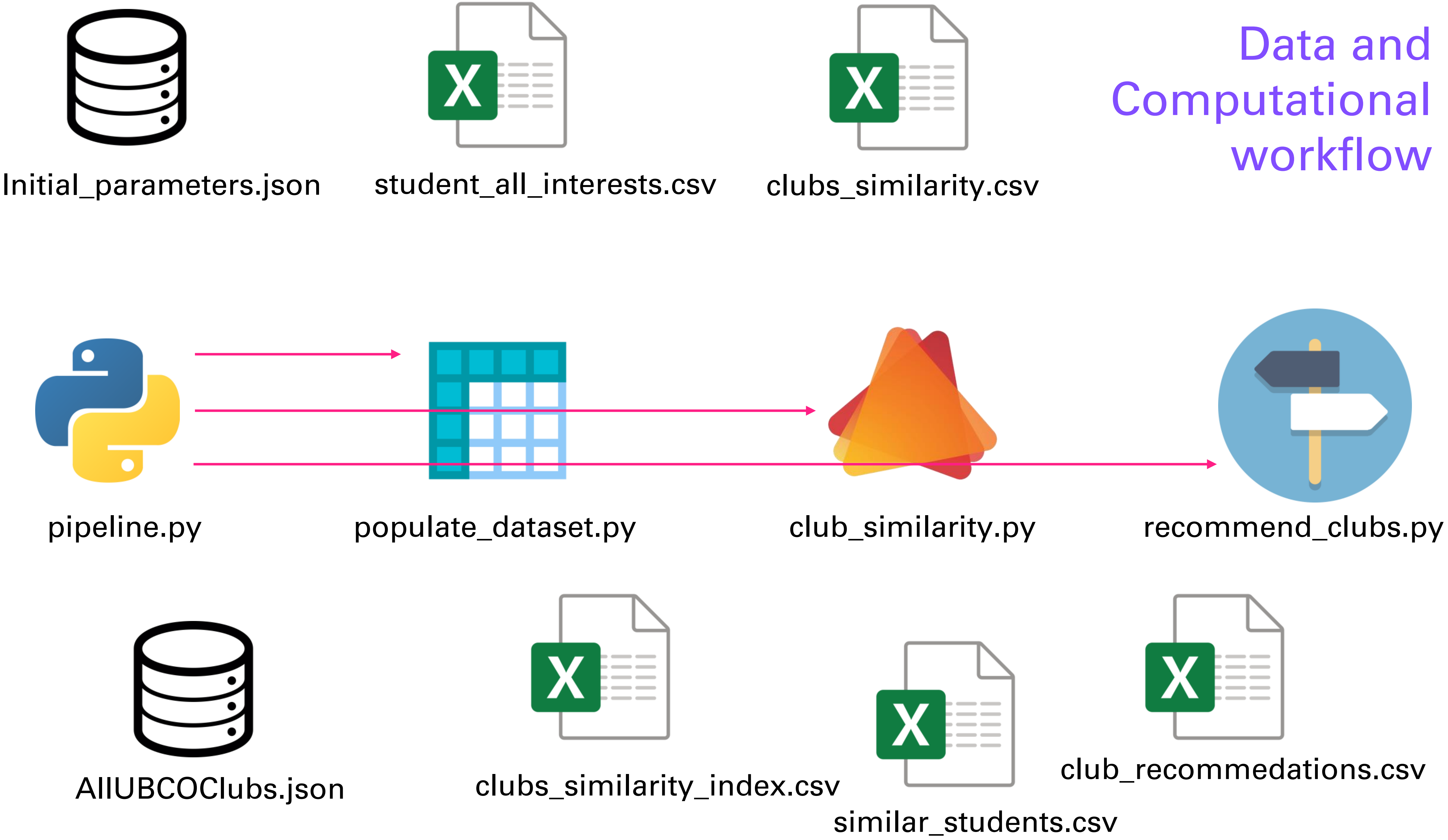

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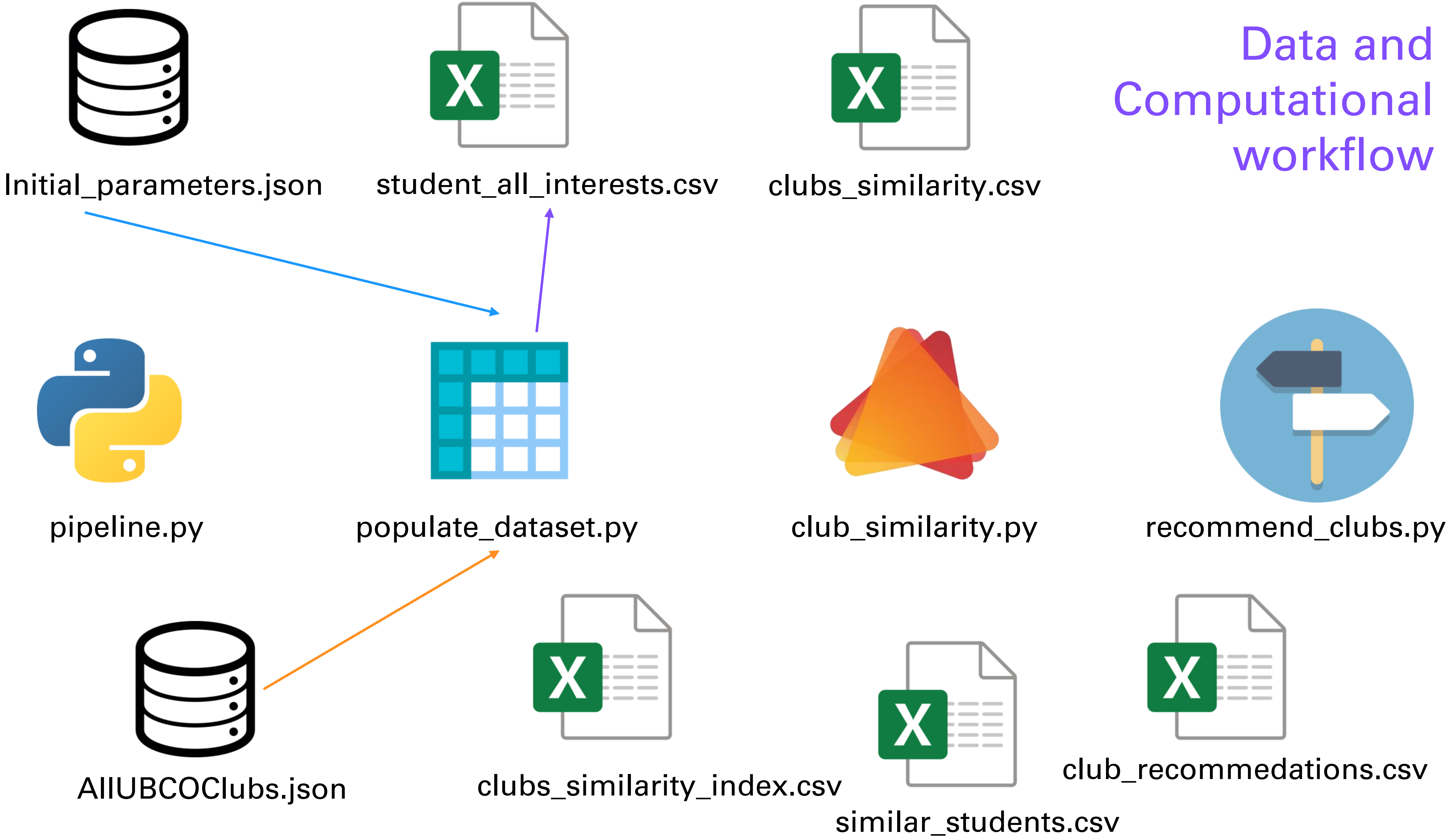

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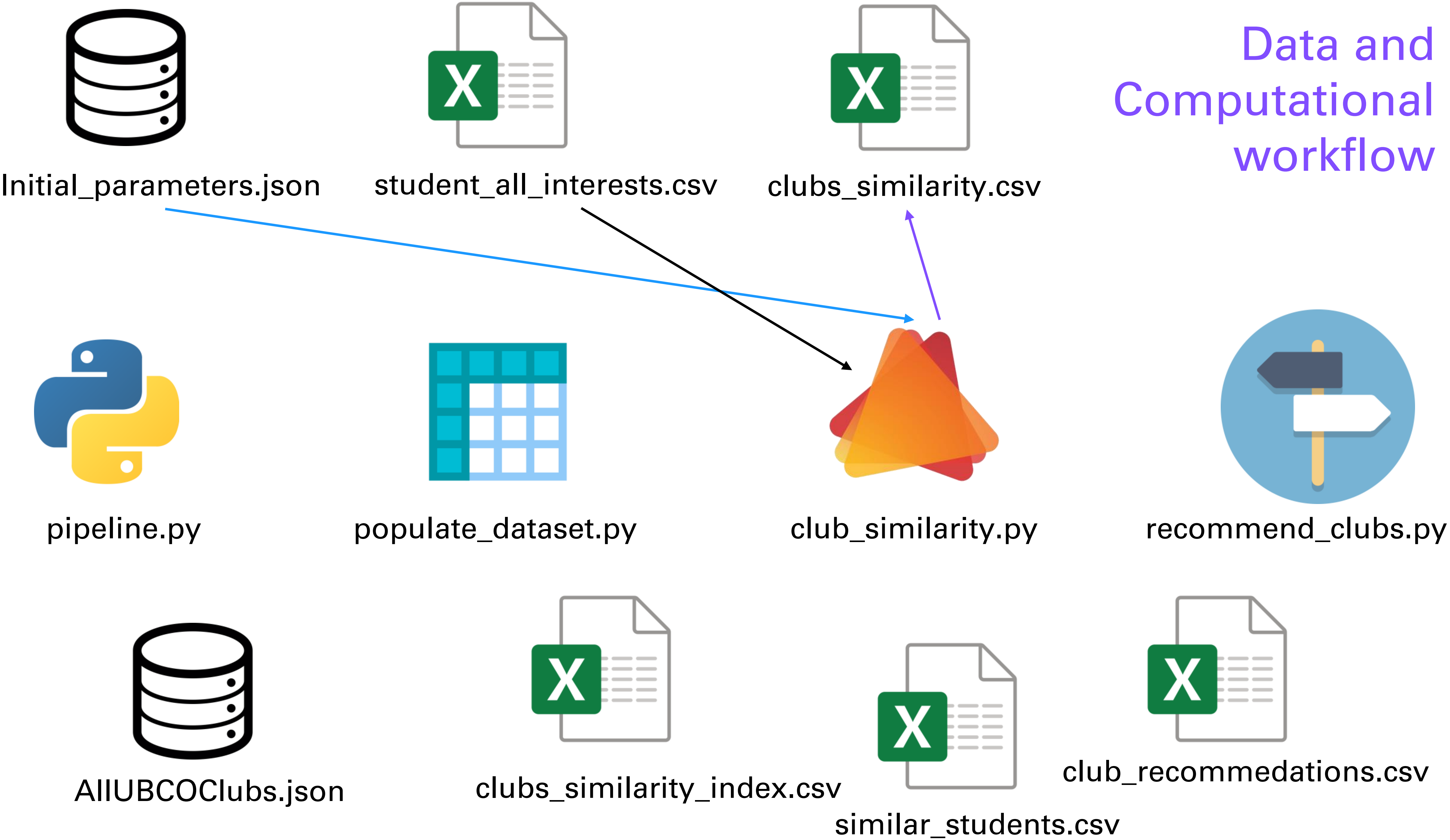

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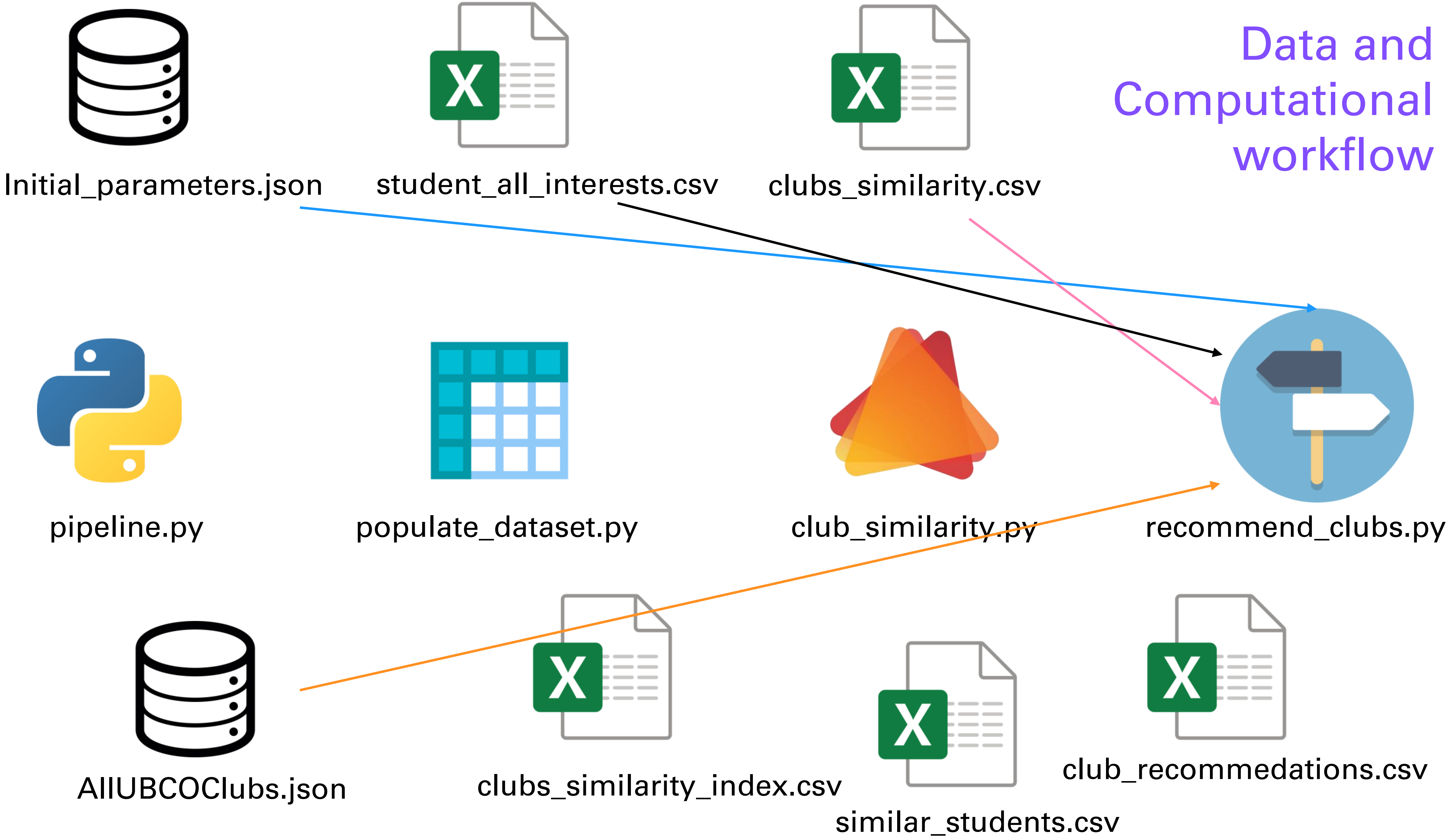

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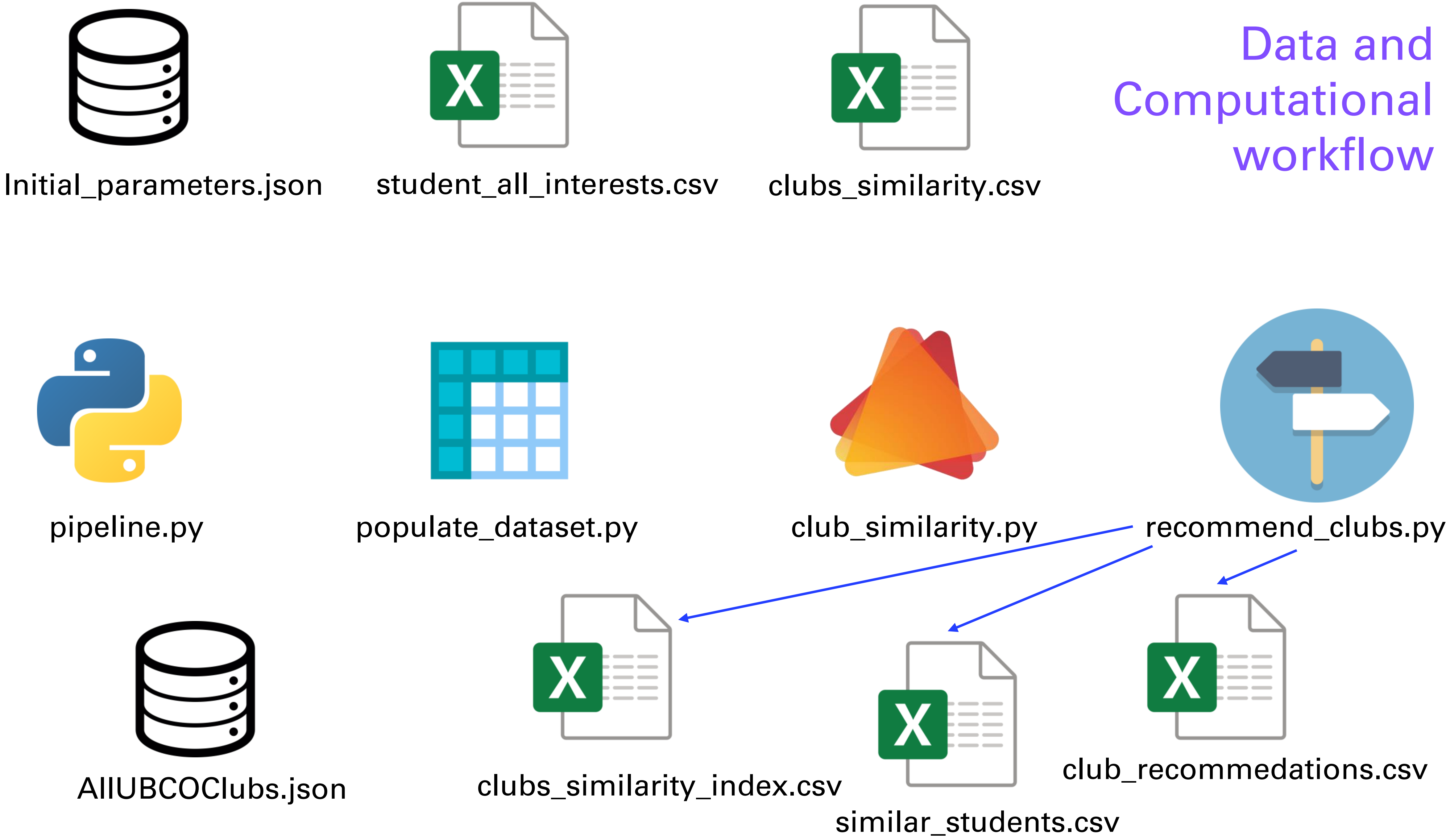

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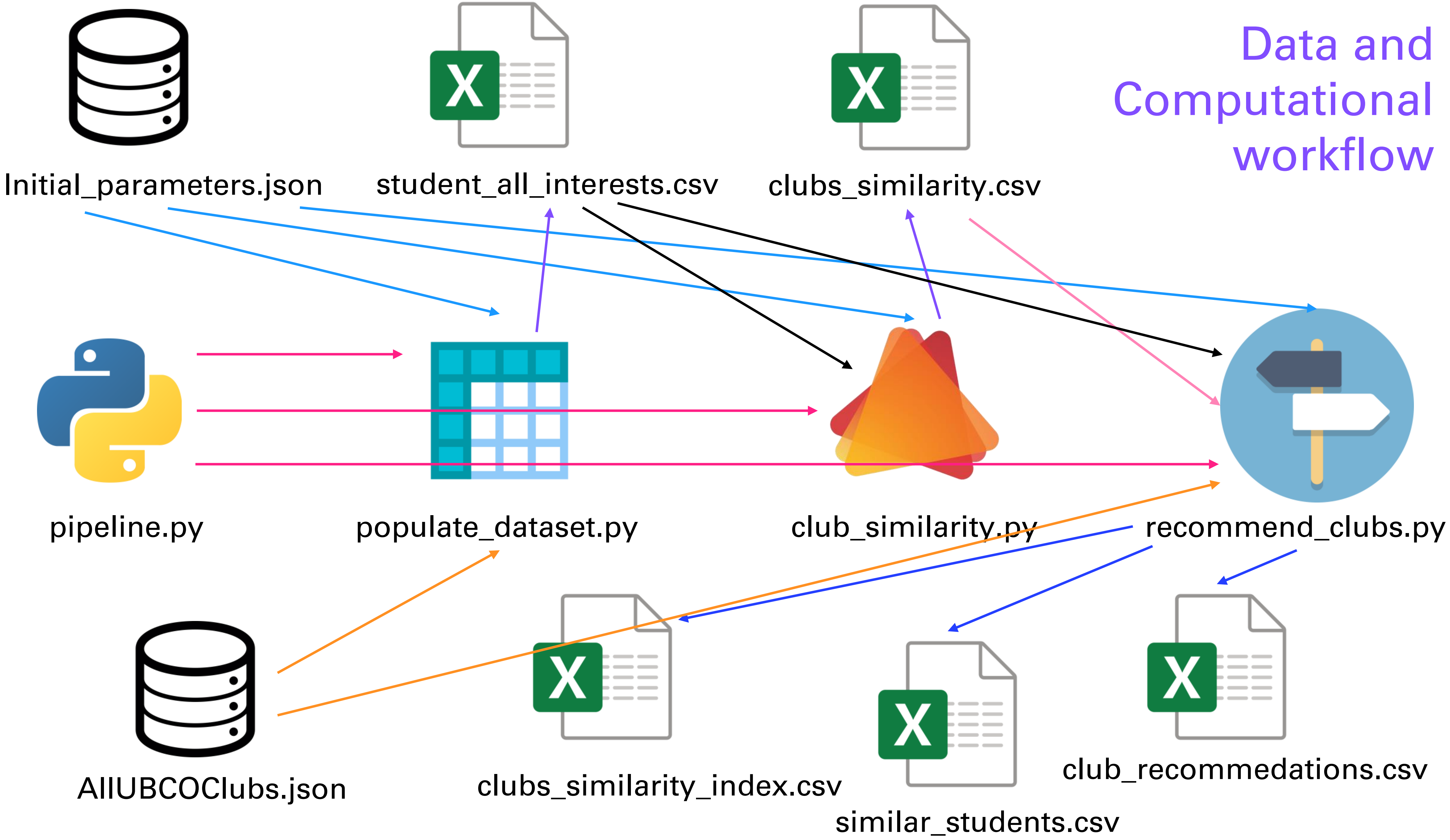

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- Generates random event interests [still under development]

club_similarity.py

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- Computes the intersection of a pair of club lists from two different students
- Generates club_similarity.csv for better interpretability of the recommendation system

recommend_clubs.py

Objective: Generates a .csv of club recommendations

- Finds similarity indices between a pair of different students (how many clubs are similar?)
  - Stored as clubs_similarity_index.csv
- Sorts these values for each student to find most similar students
  - Stored as similar_students.csv

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  - Store them from highest weight to lowest weight (i.e. most recommended to least recommended)

  - Generates club_recommendations.csv

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- Recommendations takes all user interests into account, not just those that are most similar. (Can be treated as a hyper-parameter to include n-most similar users).
- Generates a unique order of all clubs and not just a subset of recommended clubs. This can be used as a native club-view order for each student (each student sees all clubs but in a unique order, personalized to them)

Areas of improvement

- For better personalized lists, more data is needed
  - Women in engineering
  - Indonesian students of Okanagan
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- Personal data vs Personalized results trade-off
  - Example: biased results (Women in engineering)
  - Using “categories” data in AllUBCOClubs.json

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  2. [Currently more do-able] Use a questionnaire to select those categories that the student is interested in
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  3. (Best case but more high-effort)
     - Obtain the dataset of current students and what clubs they are a part of
     - Generate an average portfolio by faculty
     - Display this order