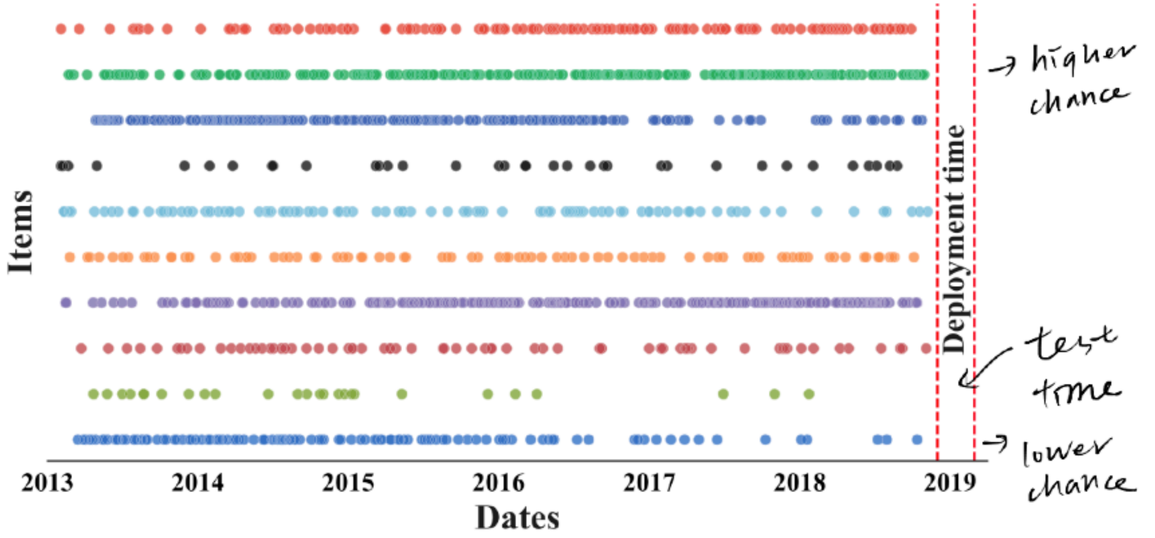
Introduction

Model the concept drift

- To model the concept drift of users, systems should focus on items that are likely to sustain users' interest until the deployment time (i.e. actual time at which items are recommend).
- Therefore, we should consider how likely each item is to sustain users' interest in deployment time.



- Supposed there are restaurants opened in 2013, where some restaurants have attracted users' interest until recently, while other restaurants have gradually lost users' interest.
- In this case, since the restaurants that belong to the former case are more likely to attract users in deployment time than those that belong to latter case.

Introduction

Collaborative Representation Learning with Interest Sustainability (CRIS)

- Take a totally different approach to model the concept drift of users.
- The key of this method is to recommend items based on the interest sustainability score (ISS), which is a score of how much users' interest in each item will sustain in the future.
- Prior to training the recommendation model, we first **compute the ISS of each item by training a neural classifier in a supervised manner**.
- Based on the predicted ISS of each item, the **propose a metric learning framework to make users closer to the items with high ISSs in the representation space than those with low ISSs**, thereby recommending items that would be attractive to users in the deployment time.