Hi everyone! I’m here to present joint work with Guy Aridor and Shan Sikdar on recommender systems. We are interested in whether these lead to filter bubbles, the observed pattern of individuals consuming increasingly similar goods, and to user homogenization, the increased similarity across individuals in terms of what goods they consume.

Existing empirical work has found that filter bubbles arise even when there is no recommender system. We propose a simple model to account for this.

We model users’ preferences as the sum of two components. One, an idiosyncratic component. The other, a common component.

In our model, users are uncertain about how much they value each product. By consuming a given product they learn not only its value but they also learn something about the value of nearby products as their values are correlated: more similar, nearby items are more strongly correlated.

We use this model to analyze the effect of recommendations. We model recommendations as simply providing a user with information on which products to consume. This information is based on past valuations of products the user consumed but also on other users’ valuations.

Using simulation, we show that the informational spillover from nearby known goods induces users to consume similar goods even without a recommender system.

We find that not only recommendation mitigates filter bubbles as it eliminates the negative correlation between diversity and realized utility that users’ consumption patterns exhibit in absence of recommendations.

However, recommendation coordinates individuals in similar portions of the product space, leading to higher user homogeneity than in either the no recommendation or the oracle cases.

We conclude in our model recommender systems induce higher user homogeneity but, opposite to what is generally thought, they may mitigate filter bubbles.