



Recommender Systems

Hybrid Recommendation

Professor Robin Burke
Spring 2019

+ Outline



- Homework 3
- Ensemble techniques
 - Bagging
 - Boosting
- Hybrid recommendation



Homework 3



- Moved due date to Thursday
- Moving back all the due dates
- Hand out Homework 4 on Thursday
 - Implement Naïve Bayes

+ Syllabus change



- Changed due dates
- Also, 2 Presentations days instead of 3
- 4/23 becomes a project work day



Should I cancel Homework 5?



- A. No. Your homeworks are fun and interesting
- B. No. I need the points to bring my grade up
- C. Yes. I need the time to do a great job on my final project
- D. Yes. Spring skiing will be good this year.
- E. No opinion.



Hybrid Recommendation



- My definitions
- Hybrid recommender system
 - A recommender system that has multiple components with knowledge sources of different types
- Ensemble recommender system
 - A recommender system that has multiple components with knowledge sources of similar types

+ Book



- Your book combines these together
 - Which makes a certain amount of sense
- I'll be talking about them separately



Motivation



- Why do we want a hybrid or an ensemble?
- Hybrid
 - Different knowledge sources have different strengths
 - Content-based: good for cold-start items, for example
- Ensemble
 - Combining weak learners can result in better accuracy
 - By reduction of bias or variance