Ahram Kim

Michael Eckstrand

CS 498

March 2, 2018

Seminar 7 (03.02.18)

Michael Eckstrand was talking about the topic ‘Making information systems good for people’. When I got an email for the topic of this seminar, that looked and sound very interesting. How do we ensure information systems are good for all the people they affect? I got lots of various interesting information from his seminar.

The learning analogies is Word2Vex leans embeddings that let us do math with words: king - man + woman = queen. Analogies Run Amok is ‘programmer - man + woman = homemaker’. Sentiment analysis is also using Word2vec. Training data was general internet content which is including immigration debates, and associating mexican with illegal. For example, if illegal is bad and mexican is like illegal, then mexican must be bad.

What we do to build new systems for meeting user needs? We need recommender system and information retrieval, to develop software to support recommender systems research, and to study behavior of information-based sociotechnical systems. There are finding patterns: recommendations (who buys what? What else do they bug?), search (What words appear, what links here), classification (What words are more likely to appear in spam?). and ranking (What feature what we clicked). Recommender vocabulary is that Items are the things we recommend. Users receive and act on recommendation, and provide input used for recommendation. Rating is encoding for recommendation.

In the Experiment Feature, Joint evaluation is that users compare 2 lists and enables more subtle distinctions than separate eval harder to interpret. Factor analysis is 22 questions measure 5 factors, and more robust than single questions, and structural equation model tests relationships. In the Results in Differences, Novelty has complex, largely negative effect. It means exact use case likely matters, and complements McNee’s notion of trust-building. Diversity is important because it mildly influenced by novelty. Tag genome measures perceptible diversity best, but advantage is small.

Misclassified decoys is if I would like Zootopia but have not yet seen it, then it is likely a very good recommendation but the recommender is penalized. Sturgeon’s Decoys is that most items are not relevant. Corollary is a randomly-selected item, and it is probably not relevant. It doesn’t work very well. The next steps is a simulation studies to measure just how bad the problem is.

Who benefits from recommendation? Do different demographic groups obtain different utility from the recommender? It is fairness in recommendation and search. I can’t forget T.Sturgeon’s and P.S. Miller’s saying. T.Sturgeon mentioned that “ninety percent of everything is crue”, and P.S. Miller mentioned that “Only 1% is ‘really good’”. Anticipatory design provides a framework for incorporating user voices into the design process. I was able to think of ‘how do we scale it?’ and ‘How does it apply to advanced algorithms?’