1116-68-350 **Tamar Lichter** and **Chelsea K Chandler*** (ckc6cz@virginia.edu), 1410 Gordon Ave., Charlottesville, VA 22903, and **Monica Ribero Diaz**. *Personalized Local Recommendations with Collaborative Filtering.* Preliminary report.

As consumers are offered information and services at an unprecedented scale, many businesses have implemented systems that predict user preferences and make personalized local recommendations. Such systems are designed to enhance the user experience and ensure user satisfaction. We used data from the *Yelp Challenge Dataset* to compare several recommendation systems and analyze their performance, employing several unique features of the dataset: geographic diversity, business category information, and review text. The following collaborative filtering models were implemented and/or adapted to take into account these features: *basic offsets*, *latent factors*, *Location-Based Preference-Aware*, *Hidden Factors as Topics*, and a novel *category offsets* model. It was found that the *Hidden Factors as Topics* model significantly outperforms all others when trained and tested on a single city from the dataset. However, when trained and tested on larger subsets of the data, its margin of improvement greatly diminishes. Additionally, depending on the circumstances of a query, it was found that collaborative filtering models should be trained on different subsets of data for efficiency and accuracy. (Received August 26, 2015)