Project Title: “Development-of-Startup-Name’s-Image-Recommendation-Filtering-Algorithm”

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Data Set: Briefly describe data set that you are going to use. You should have access to this data set, rather than promising to collect data.

Project Idea: Describe what you want to achieve. What Machine Learning tools are you going to use? How is the data set going to help you answer your question?

The key objective in this project to understand the determining factors customers value when looking at pictures, particularly when it comes to restaurant selection. This idea stemmed from a start-up idea that a team member is working on outside of class, with the ultimate goal to develop an app that recommends restaurants to groups of consumers based on their mutual and distinct interests. With the app’s purpose being to provide a suggestion, the team believes there are distinct values that consumers put on the visual representation of the restaurant, whether it be pictures of food, décor, or social interactions.

Utilizing the training dataset of rated pictures from the social media environment, the team will focus on Machine Learning tools that group characteristics and assist in providing recommendations based on data determined critical variables. Specific techniques valuable to the task will include clustering, a tool that helps conclude the most prominent qualities in popular photos, and regression trees, which can help identify the order and importance of variables with respect to each other. The team will also utilize collaborative filtering to properly break the data down into readable matrices and similarity tools to best recommend the most appealing photos for the restaurant app. KNN and cross validation analysis may also play a role in the project, as the team may look to minimize error while maintaining a balance between the influences of bias and variance in the data. As the class progresses, there are perhaps other tools that may prove useful to introduce to the project in order to improve the final recommendations.