**Project Proposal**

Project Problem:

Can you pair product with people? This is one of the Kaggle competitions that is about product recommendation. The product recommendation system is very popular data mining problem that businesses like Amazon, Google use everyday.

Project client:

The client company, Santander bank, has roots from Spain and is mainly located in the northeast of the United States. Currently, their system doesn’t recognize the right products to their customers, so that some customers get too many offers while others don’t have any. Their wish for the solution is “with a more effective recommendation system in place, Santander can better meet the individual needs of all customers and ensure their satisfaction no matter where they are in life” (Kaggle). Therefore, an algorithm or a model that is a result from my project will help Santander bank to predict which products their existing customers will use in the next month based on their past behavior and that of similar customers.

Data:

Data is directly from the client and includes both test and train data.

Outline of the approach:

1. Data wrangling and transformation
2. Data exportation and visualization to understand the situation
3. Association Rule Learning and the Apriori Algorithm
4. Collaborative Filtering Algorithms
5. Other Models
6. Comparison of the models

Deliverables:

1. Paper that includes analysis of the problem, recommendation, possible solution
2. Code that shows the solution
3. Presentation
4. Kaggle submission score
5. Submission file to the Kaggle