

ECS 171 Project Description

Team 4

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1 Team Members

Leader: Kyle Ross

Others: Haley Chung, Thalia Fay, Shawn Headley, Yu Fat Li, Fangjing Li, Bryce Naung, Adarsh Pantula, Jacob Porter, Jie Shao, Stephen Wong, Yuhao Zhuang, Shawn Headley.

2 Problem Statement

The goal is to identify specific customer segments that purchase specific products. This is a critical strategy for sales marketing, as corporations need to be able to identify their audience.

3 Dataset Description

The dataset is split into 4 primary sections. The People section identifies each customer by education level, marital status, etc. The Products section lists the amount each customer has spent on products such as fruits, sweets, gold, etc. The Promotions section calculates when the customer has made their purchase based on marketing discounts. The Place section calculates the number of purchases a customer has used from a specific medium. Link: <https://www.kaggle.com/imakash3011/customer-personality-analysis>

4 Goals

- Do research on the area for the dataset chosen, and identify the data fields most likely to affect results.
- Clean dataset (such as handle missing data fields) and remove unnecessary/less relevant data fields.
- Experimentation with 2 or more ML techniques (such as K means clustering vs C means clustering).
- Obtain necessary images of plots/data tables for post analysis results, and include them in Latex writeup.

5 Timeline

- Weeks 3-4: Each member could obtain 1 academic/research paper corresponding to the chosen area.
- Weeks 5-6: Discuss various methods of cleaning the dataset. Divide into groups of 2-4 members to clean the dataset in one way, so in total, we have different cleaned datasets available for testing.
- Weeks 7-9: Discuss and experiment with ML techniques. Divide into groups of 2-4 members each assigned with a different ML technique. Discuss algorithms/results afterwards with the whole group.
- Weeks 9-10: Create project's user interface, do Latex project write up, and finalize presentation slides/videos.