

# An Exploration of Probabilistic Model for Consumer Choices

by

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## Abstract

This thesis evaluates the performance of recommendation system using market basket analysis based on the SHOPPER model. The model imposes structured method to evaluate customer behavior, and takes in consideration of personal preference, price fluctuation, seasonality, as well as substitute and complement effects between products. The item-item relation is extracted based on item description as well as feature vectors generated by VGG19 from image of items. The model is compared to traditional apriori algorithm, and shows promising improvement when applied to the HM Personalized Fashion Recommendations dataset.

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