

We will analyze the environment of nutritional labels in conjunction with automated design systems (ADS). The goal of ADSs is to make decision making smoother by implementing models that contain assumptions that are hidden depending on datasets that have been repurposed. It has become customary for consumers to check the nutritional label of the item that he/she is considering buying, hence the consumer is in a decision making process. The information that is portrayed on the label plays a big part in the consumer's decision-making process, it's either going to make the consumer say yes or no; hence the company/market will either make a profit or not. If consumers trust the information presented on the label, then supposedly they trust ADSs. However, the interpretability of the label does not directly correlate to human understanding and trusting of the computational process and outcomes of ADSs.

The system we will implement and analyze is a tool developed in response to a Kaggle competition¹ hosted by Home Credit², with the task of predicting housing credit default risk. The ADS predicts how capable each applicant is of paying a loan, which in turn determines which applicants are approved or not. Home Credit claims to strive for financial inclusion of the unbanked and sought to tap into the full potential of their data. This particular ADS is of interest because disparate impact imposed by the system will effectively exclude minorities from resources provided by financial institutions, thus doing the opposite of what Home Credit intended.

The data we will utilize was provided by Home Credit and was posted along with the Kaggle competition. The data includes information related to an applicant's credit history, credit card balances, and loan application history. The implementation of the ADS will be taken from the winners of the competition, and will employ techniques for a supervised classification problem.

¹ <https://www.kaggle.com/c/home-credit-default-risk/overview>

² <http://www.homecredit.net>