Project 5 Passion Project:
Black Friday Ads – Search and Recommendation

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Domain

Introduction

The day after Thanksgiving is also known as Black Friday, traditionally the busiest shopping day of the year for retailers as the day kicks off the holiday shopping season. According to a survey conducted by the National Retail Federation, more than 165 million Americans shopped over Black Friday weekend[1] in 2018. Average per-person spending was $313.29.

To draw big crowds and drive fourth quarter sales, retailers such as Amazon, Wal-Mart, Target, and Best Buy offer enticing discounts on a variety of items ranging from large flat screen TVs, laptops, gaming consoles, home appliances, clothes, and toys. Many of these retailers release their Black Friday ads weeks in advance so shoppers can review sales and plan their shopping.

I am one of those consumers who flip through all 50 or so pages of each ad to make note of the items I am interested in (and sometimes, I make note of items I did not know I was interested in). This year, I recently moved to Seattle. I will be in the market for all kinds of appliances to fill up my new apartment. In particular, I am most excited to purchase a new TV.

As I was flipping through the ads a couple days ago, I had a difficult time keeping track of all the TV sales including the various brands, sizes, prices, and which retailer was offering the sale. I was overwhelmed and gave up on my research in hopes that someone else will go through all the deals and write a news article as a guide for my TV purchase.

Project Details

As I have done all throughout this bootcamp, I have worked on projects which I am personally invested in. For my final passion project, I would like to develop a search system that scrapes Black Friday ads and returns sales based on a keyword search. Additionally, the model would recommend similar items. For example, if I search 'Samsung 65" TV', the model should return all Samsung 65" TVs from the Black Friday ads with price, retailer name, description, picture, and link to the specific TV to learn more. Additionally, since I'm more sensitive to price than brand or size, the model should recommend other similar items such as TVs of another brand or size.

Data
I will scrape the 2019 Black Friday ads listed on https://bestblackfriday.com/ads.

Considerations
- Image recognition in addition to NLP of product name?

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[1] Black Friday weekend includes the five days from Thanksgiving Thursday through Cyber Monday