Amazon Cell Phone Products Recommendation

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Problem Statement - Background

- Amazon is an online e-commerce marketplace that sells a variety of products ranging from personal care, books, electronics to food

- In order to give a prospective customer some idea about an available product on the marketplace amazon sends out an email to the actual buyer asking his/her feedback about the seller and product which includes a star rating (1-5) and some review text

- Deriving from the Principle of Collective intelligence, Amazon product reviews is a great way to know whether a product meets the needs of a customer and what to expect when the product is delivered.

- Recommending a product to a prospective customer based on product review becomes critical to maximize customer conversion and loyalty

Objectives

- Classify the reviews based on their usefulness

- Ultimately use this information to provide informed recommendations to new prospective customers

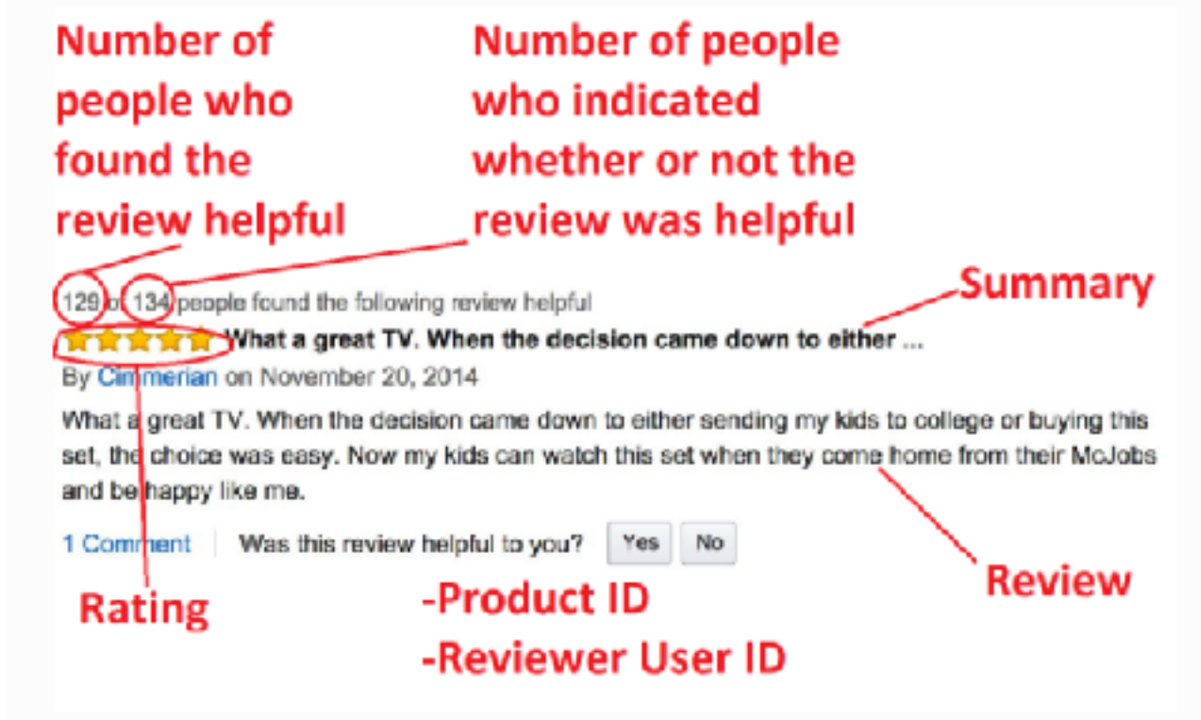
Data Collection

- The data used in this project has been procured from the curated dataset maintained at SNAP –
- http://jmcauley.ucsd.edu/data/amazon

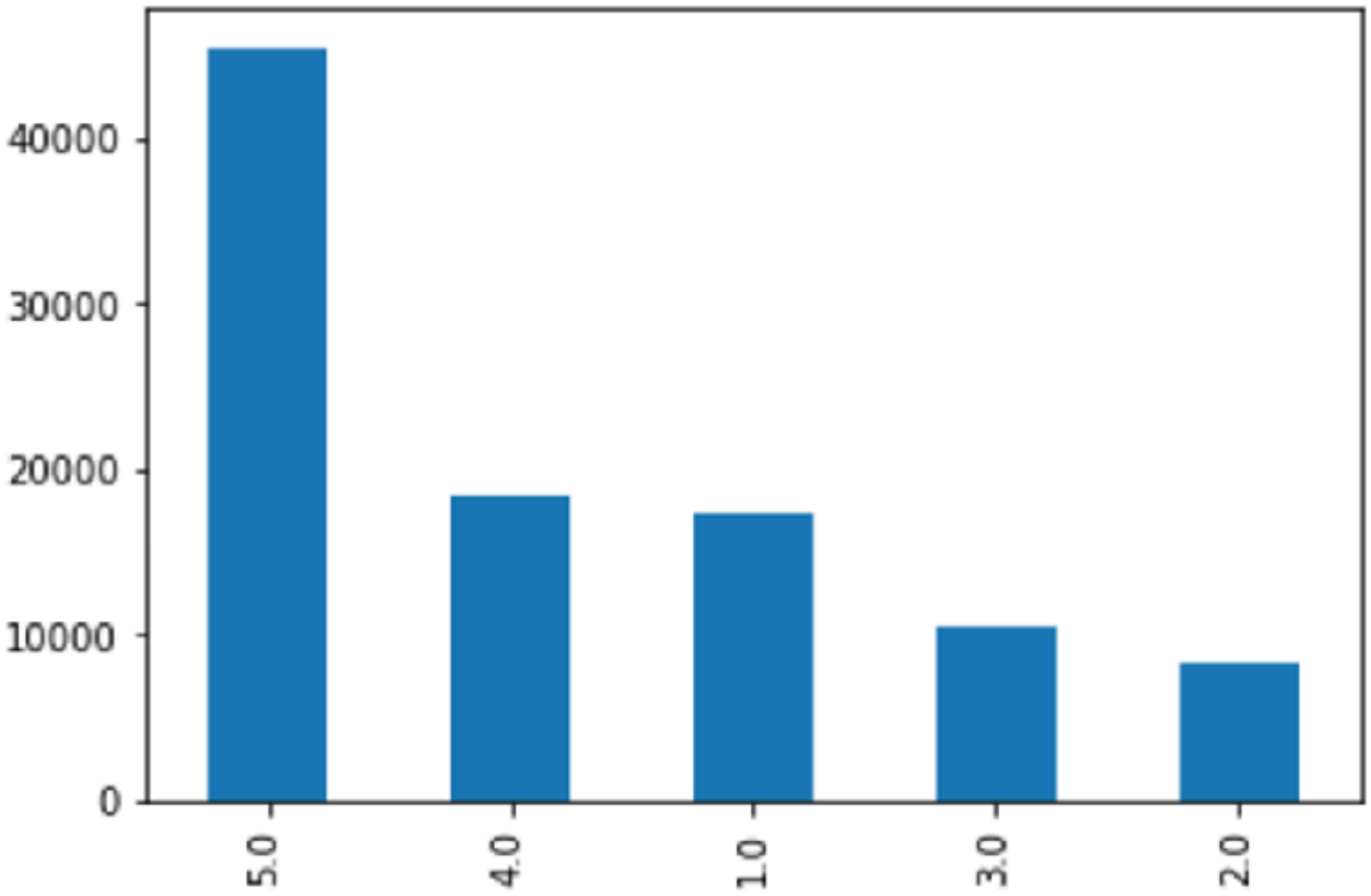
R. He, J. McAuley. Modeling the visual evolution of fashion trends with one-class collaborative filtering. WWW, 2016
J. McAuley, C. Targett, J. Shi, A. van den Hengel. Image-based recommendations on styles and substitutes. SIGIR, 2015

What kind of data we are looking at?

An example of an Amazon review is pictured below. It consists of the following information:

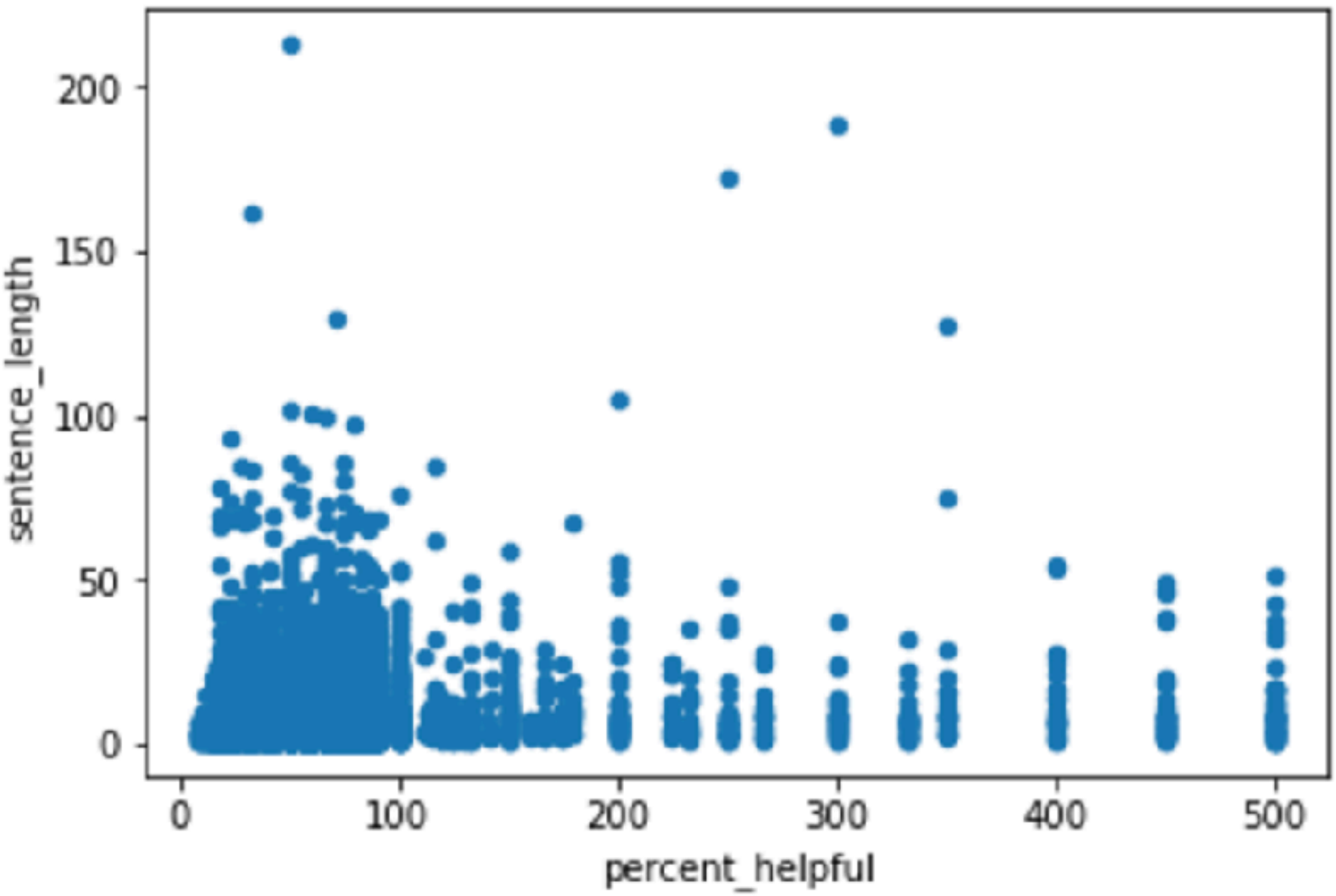


From the plot below the distribution of star ratings can be seen which shows that majority of products have 5 star ratings so if we build a model solely by taking star rating into consideration for a specific user then it is going to be biased



Below is the word cloud meaning the word with highest size has been used most number of times and just by taking a look at the word cloud we can say that the data corresponds to cellphones and accessories

It can be clearly seen that the length of the review does not directly guarantee the helpfulness of the review. In fact smaller sentences appear to be more helpful as can be seen by the high density of data points towards the lower left hand side of the graph.



Customer rated this product.

https://www.amazon.com/dp/B001UCELX4

Using average calculated rating of 2.9 recommended products




Using star rating of 5.0 recommended products




Customer rated this product.

https://www.amazon.com/dp/B0028MIQG8

Using average calculated rating of 2.7 recommended products





Using star rating of 4.0 recommended products



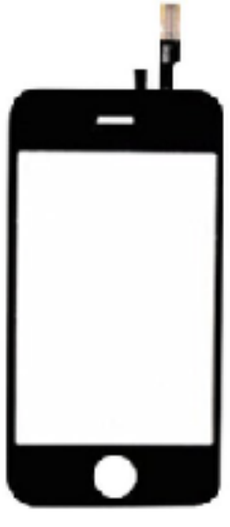


Customer rated this product.

https://www.amazon.com/dp/B001QTW21Y

Using average calculated rating of 2.9 recommended products

Using star rating of 5.0 recommended products



Customer rated this product.

https://www.amazon.com/dp/B002BH3I9U

Using average calculated rating of 2.9 recommended products





Using star rating of 5.0 recommended products




Thank You