

# Creating Deception Clues To Detect Fake Amazon Reviews

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# Problem

- Standard set by Jindal and Liu is extremely long and time complex
- Considers all different kinds of factors
- Our goal is to reduce the amount of data needed, while also producing a more accurate model
- We will focus on REVIEW SPECIFIC FEATURES, not reviewer, or product details



Abuyer

★★★★★ **Fab gift**

Reviewed in the United Kingdom on November 18, 2021

Style: Limited Edition Renew & Relax Kit, 12 Piece Set | **Verified Purchase**

Looks great. I've bought it for a gift. I'm sure the recipient will love it



John Henderson

★★★★★ **Worth it.**

Reviewed in the United States on November 18, 2021

Style: Limited Edition Renew & Relax Kit, 12 Piece Set | **Verified Purchase**

My preteen is going to love it.



3 people found this helpful



Gisele Swanson

★★★★★ **Variety**

Reviewed in the United States on April 24, 2021

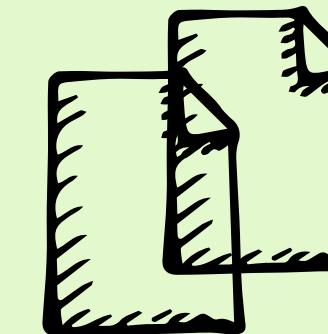
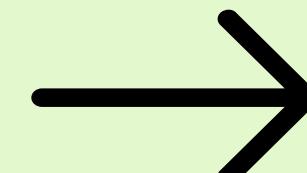
Size: 7 Count (Pack of 1) | **Verified Purchase**

Fun stocking stuffers

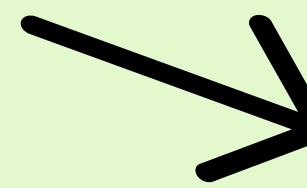
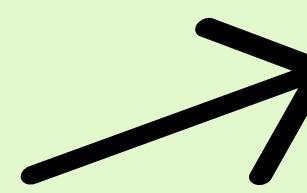
# Approach



Identify deception clues to create a standardized process for labelling the dataset



Create two labelled data sets deeming each review as real or fake



First labelled data set will be based on the deception clues tailored to that specific product

Second labelled data set will be based on general deception clues



Compare our labelled data set with the result from Bert to determine which set of deception clues are more accurate in predicting fake Amazon reviews

# Approach

## Jindal and Liu Deceptive Clues

- Review Date
- Number of feedbacks to judge review quality
- Length of the review title and body
- Sentiment Classification (Positive or Negative)
- Cosine similarity of the review and product features.
- Percent of times brand name is mentioned in the review.
- Percent of numerals, capitals, and all capital words in the review.
- Rating of the review and its deviation from product rating.
- Context specific - indicating whether a bad review was written just after the first good review of the product and vice versa

## Our chosen deceptive clues

- Quantity of words in review
- Complexity of sentence
- Diversity in word choice
- Typos
- Contextual information
- External links/references
- Timestamps

# Conclusion and Evaluation

**Corpus:** Amazon reviews

**Evaluation Metrics:** Precision, Recall, F-measure

Manually labeled dataset with **generalized deceptive clues** and  
**our deceptive clues**

- Train BERT with **80%** of each of our labeled data sets
- Run BERT for the remaining **20%** of the data sets



We predict:

- Model with generalized deceptive cues: **F-measure of 72%**
- Model with our deceptive cues: **F-measure of 75%**

# References

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