

Fake Reviews Detection

NUCES-FAST

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Overview

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Reviews

Fake Reviews

The room was spacious and clean, the bathroom sparkling, with every amenity one could imagine. The hotel staff was extremely helpful. Believe everything good that you read.

Real Reviews

The room are pretty good furnished and clean. The staff was friendly and helpful.

Fake Review

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- Three type of review mentioned in paper ¹ :
 - **Positive:** I love how beautiful the hotel was. My friends went there because of me.
 - **Negative :** I sat on the couch it was like a rock.
 - **Completely irrelevant :** Resorts are much better than hotels.

¹References : Huayi Li, Zhiyuan Chen, Bing Liu, Xiaokai Wei, and Jidong Shao. Spotting fake reviews via collective positive-unlabeled learning. In 2014 IEEE International Conference on Data Mining, pages 899-904. IEEE, 2014.

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- **Meta-data**²: Set of data that describes and gives information about other data.
- **Behavioral**³: Study of reviewer sentiments on product.
- **Linguistic**³: Study of language, grammar and syntax.

²References : Huayi Li, Zhiyuan Chen, Bing Liu, Xiaokai Wei, and Jidong Shao. Spotting fake reviews via collective positive-unlabeled learning. In 2014 IEEE International Conference on Data Mining, pages 899-904. IEEE, 2014.

³Arjun Mukherjee, Abhinav Kumar, Bing Liu, Junhui Wang, Meichun Hsu, Malu Castellanos, and Riddhiman Ghosh. Spotting opinion spammers using behavioral footprints. In Proceedings of the 19th ACM SIGKDD international conference on Knowledge discovery and data mining, pages 632-640. ACM, 2013.

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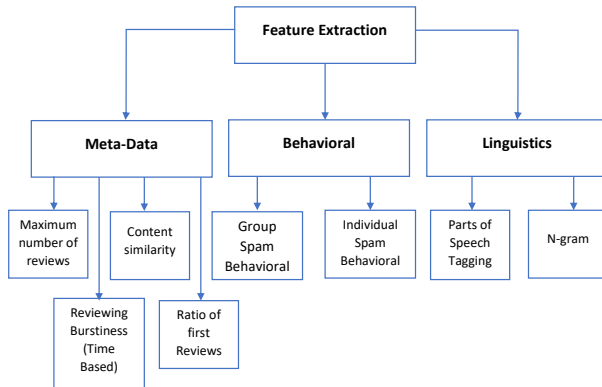
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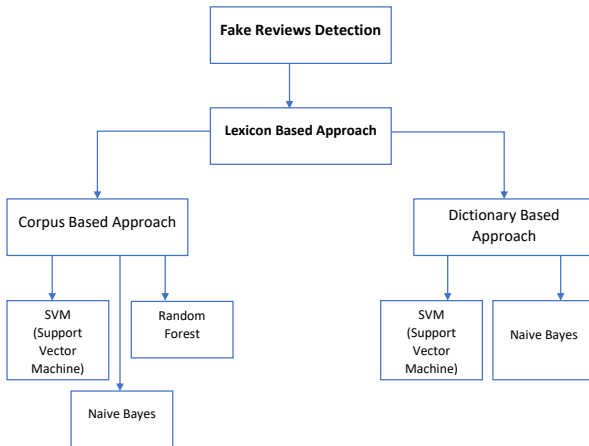
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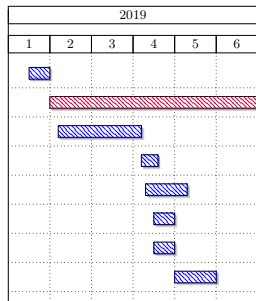
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Proposal
Literature Review of Fake Reviews
Identification Of Features For Fake Review Classification
Planning
Chossing Techniques For Classification
Tunning Of Classifier Features
Testing and debugging
Documentation phase 1



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Naveed Hussain, Hamid Turab Mirza, Ghulam Rasool, Ibrar Hussain, and Mohammad Kaleem.

Spam review detection techniques: A systematic literature review.

Applied Sciences, 9(5):987, 2019.



Huayi Li, Zhiyuan Chen, Bing Liu, Xiaokai Wei, and Jidong Shao.

Spotting fake reviews via collective positive-unlabeled learning.

In *2014 IEEE International Conference on Data Mining*, pages 899–904. IEEE, 2014.



Arjun Mukherjee, Abhinav Kumar, Bing Liu, Junhui Wang, Meichun Hsu, Malu Castellanos, and Riddhiman Ghosh.

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