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A Survey Paper on Detection and Controlling Measures on Net-spam on Social Media

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ABSTRACT: Online reviews have become an increasingly important resource for decision making and product designing. But reviews systems are often targeted by opinion spamming. Although fake review detection has been studied by researchers for years using supervised learning, ground truth of large scale data sets is still unavailable and most of existing approaches of supervised learning are based on pseudo fake reviews rather than real fake reviews. Identifying these spammers and the spam content is a hot topic of research and although a considerable number of studies have been done recently toward this end, but so far the methodologies put forth still barely detect spam reviews, and none of them show the importance of each extracted feature type. In this study, we propose a novel framework, named Net Spam, which utilizes spam features for modelling review data sets as heterogeneous information networks to map spam detection procedure into a classication problem in such networks. Using the importance of spam features help us to obtain better results in terms of di erent metrics experimented on real-world review data sets from Yelp and Amazon websites. The results show that Net Spam outperforms the existing methods and among four categories of features; including review behavioral,user be-havioral,review linguistic and user linguistic, the rst type of feature perform better than the other categories.

KEYWORDS: Social media, Social Network, Spammer, Fake review.

I. INTRODUCTION

The fraudsters' activities mislead potential customers and organizations reshaping their businesses and prevent opinion-mining techniques from reaching accurate conclusions.
The present research focuses on systematically analysing and categorizing models that detect review spam.
The results show that Net Spam outperforms the existing methods and among four categories of features; including review behavioural, user behavioural, review linguistic and user linguistic, the first type of feature perform better than the other categories.

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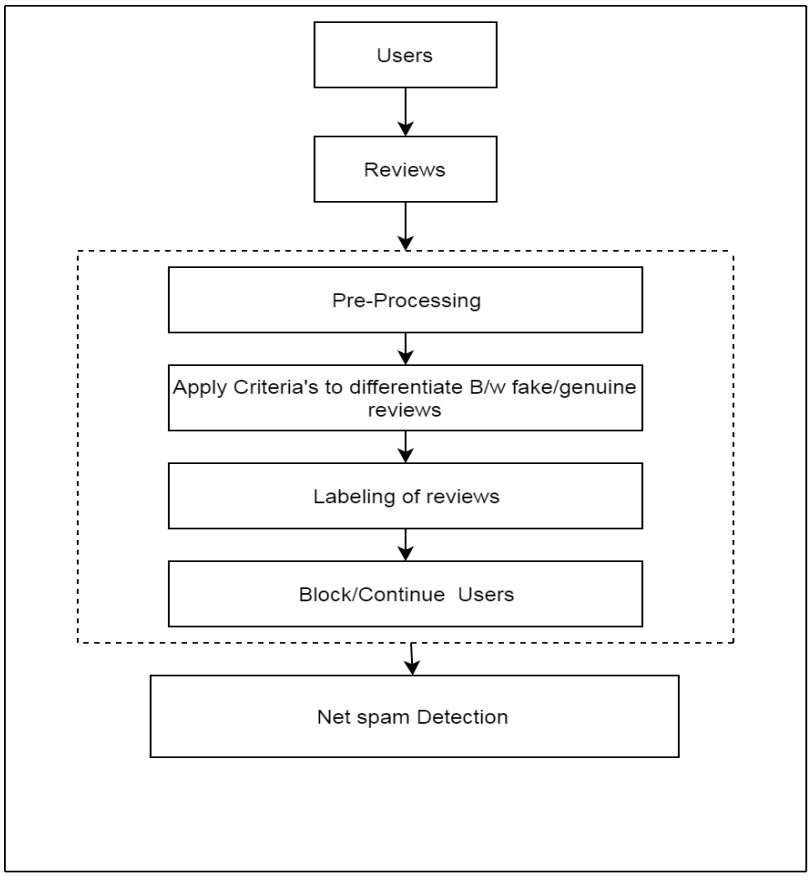

Fig. System Architecture

II. LITERATURE SURVEY

- Title: **Estimating the Prevalence of Deception in Online Review Communities**
  Author: Myle Ott,Claire Cardie and Jeff Hancock
  Year: 2016
  Description: Presents a general framework for estimating the prevalence of deception in online review communities.

- Title: **Spotting fake reviews via collective PU learning**
  Author: H. Li, Z. Chen, B. Liu, X. Wei, and J. Shao .
  Year: 2016
  Description: It propose models that can markedly improve the F1 scores of strong baselines in both PU and non-PU learning settings. Since our models only use language independent features, they can be easily generalized to other languages.

- Title: **Opinion spam and analysis**
  Author: N. Jindal and B. Liu.
  Year: 2008
  Description: This paper analyzes spam activities and presents some novel techniques to detect them.

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- Title: **Credible Review Detection with Limited Information using Consistency Features.**
  Author: R. Ozcan, I. S. Altingovde, and O. Ulusoy,Saurav Datta.
  Year: 2016
  Description: Present a novel consistency model using limited information for detecting non credible reviews which is shown to outperform state-of-the-art baselines.

- Title: **Mining Heterogeneous Information Networks: A Structural Analysis Approach**
  Author: Yizhou Sun and Jiawei Han.
  Year: 2010
  Description: Presents an overview of the techniques developed for information network analysis in recent years.

- Title: **Collective Opinion Spam Detection: Bridging Review Networks and Metadata**
  Author: Shebuti Rayana and Leman Akoglu .
  Year: 2011
  Description: Propose a new holistic approach called SpEagle that utilizes clues from all metadata (text, time stamp, rating) as well as relational data (network), and harness them collectively under a unified framework to spot suspicious users and reviews, as well as products targeted by spam.

III. CONCLUSION

This study show that we can detect a spam review by applying some constraints which will be useful to detect spammers and take proper action against them.
It will be beneficial for all product based or service based organisation where there is a section for giving the reviews.
We are successfully able to identify the spammers an eleminate them for posting further reviews.
It will help people not to be misguided by fake reviews so that they don't get any wrong information about any product or service.
It will help users to take decisions which will be more efficient**.**

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