Automatic Detection of Fake News in Turkish

Şefik ÇEVİK
Hacettepe University
n16169632@cs.hacettepe.edu.tr

TASK

Extreme usage of social media is inevitable of our daily lives. Since a single user can reach masses from social media, malicious users can use this power to make up fake news for their benefits or just for fun. Therefore, building a framework to detect misleading information is attracts interest even though it is challenging. The main task of this project is to build a framework for detection of a given text in Turkish is fake or legitimate.

DATA

Collecting legitimate and fake news and labeling them is an important part of the project. I will use websites of popular news agencies since their editors filter the content and eliminate fake ones. Hence, we can label articles that are downloaded from these websites as legitimate. We cannot build a fake news detection framework using only legitimate news, so we have a different source, which we can know the news are fake. In Turkey Zaytung [1] has many news that looks like legitimate but they are fake. Articles downloaded from Zaytung can simply labelled as fake in the dataset.

RELATED WORK

Pérez-Rosas, V. et.al [2] from University of Michigan propose automatic detection of fake news. They use crowdsourcing to collect legitimate and fake news with the help of AMS (Amazon Mechanical Turk). In building the dataset, they suggested their authors to send not only the fake one but also the legitimate one together. In five days, they collect approximately 240 fake news with their legitimate ones. The final set 31, 990 words with average of 132 words and 5 sentences per article. They build the fake news detection models with several sets of linguistic features such as: Ngrams, punctuation, psycholinguistic features, readability and syntax. After building the dataset, they use several machine learning classification methods conducted with R. Most classifiers obtain well above the 0.50 baseline. They use human annotators to compare the results from their classifiers by the human annotations. Results confirm that humans are better at detecting fake content.

METHOD

The intended dataset will be built with web scrapper from legitimate news website and fake news website. Since the source of the news are known as legitimate or fake, the downloaded data can be labelled by its source. After collecting the dataset, the language model will be built by linguistic features like Ngrams. Machine learning classifiers can be used to construct computational models and the dataset will be used for training and testing the derived classification. Later, the performance of the system will be examined and compared to evaluate the resulting performance.

SCHEDULE

- Collecting Data : 2 weeks
- Building Models : 2 weeks
- Testing Models : 2 weeks
- Analyzing Results : 2 weeks
- Final Project : 2 weeks

REFERENCES

1. Zaytung, http://www.zaytung.com/
2. Pérez-Rosas, V., Kleinberg, B., Lefevre, A., & Mihalcea, R. (2017). Automatic detection of fake news. *arXiv preprint arXiv:1708.07104*.