Scientific Article: FakeNewsTracker: a tool for fake news collection, detection, and visualization

Today people spend a lot of time on the social media platforms. Reasons are the low costs that these are easily accessible and you can simply express your opinion here. Therefore, they are used for consumption and as a source of information. However, the consumption of social media in particular is a double-edged difficulty because the quality of news is not always controllable; it is generally lower than in traditional news organizations and therefore fake news are widely spread. This is a serious problem as many fake news have a negative impact not only on the individual but also on society.

One of the main problems is that anyone can disseminate information in the social media and there is no regulatory authority to control the information. Furthermore, the scope and diversity of social media platforms is far too large and consequently it is impossible to manually label the fake and true messages. For this reason, Shu et al. have been working on a detection mechanism to design the "FakeNewsTracker", which should be able to predict reportage fast enough to stop the spread of fake news. (Shu et al., 2018)

To take advantage of social media platforms, some individuals and businesses use them as a tool for targeted dissemination of false information for financial and political gain. This indicates confirmation that by the end of the US presidential election in 2016, over a million tweets had been associated with the fake news surrounding the "Pizzagate".

Furthermore, the detection of fake messages in recent years has also aroused the interest of some researchers. There has been work on latent content embedding of the document as one of the features for the detection task. (Shu et al., 2017)

Ruchansky et al. (2017) investigated the differences in temporal interaction patterns between fake and real messages as people try to express their emotions via social media posts.

The technique used by the researchers is divided into three methods. Firstly, a "fake news collection" is created. (Shu et al., 2018) This automatically collects the news content and the social context. Fact checking websites such as PolitiFact are used as a source. (Wang 2017) Secondly the system proceeds to fake message recognition. Here the useful functions are extracted, and then various learning models are developed to detect the fake messages.

The final method is the use of fake message visualization. Here the characteristics of the distribution of fake messages are represented by effective visualization techniques, e.g. the word cloud representation (Shu et al., 2018) and the geo-visualization of tweets. (Luke, S., Morgan, J., 2015)

In the paper, the system FakeNewsTracker was examined which offers suggestions for solutions to detect fake messages using various tested methods. This shows that a strategy to capture fake messages was chosen to collect data and develop a learning-based solution. In this context, linguistic and social engagement functions were
considered. Especially interesting was the visualization of the patterns in order to interpret the results and to draw conclusions to the social media platforms. The authors suggest that there are further interesting points of connection to the future work, e.g. the use of different functions on another dataset. Another exciting continuation would be that the fake messages are detected in real time using a streaming method. (Shu et al., 2018)

Literature


**Case Study: Grab them by the Pizza #Pizzagate**

In these times we are more and more confronted with fake news. In this context, the events around the Pizzagate will be discussed. This is one of the most prominent cases of fake news, as the spread of fake news reached its peak in the run-up to the 2016 presidential election. The rumors surrounding the Pizzagate started when thousands of internal e-mails from prominent members of the Democratic Party were hacked and released. Among them were Hillary Clinton and Hillary Clinton's chief strategist John Podesta. The leaked e-mails allegedly used code words; "pizza" stands for girls, "hot dog" for boys, "sauce" for orgy, and so on. (Rehfeld 2016) To mark this occasion, a diffuse online community was engaged in reading the leaked e-mails, which were then interpreted and exchanged. (Mihalidis, P., Viotty, S., 2017) The biggest problem was that
the rumors became progressively more relevant. This was mainly due to the fact that an increasing number of citizens brought in their interpretations and theories. As a result, the #Pizzagate hashtag grew very rapidly and the ideas raised in Reddit spread to mainstream social networks like Facebook, Twitter, Instagram and YouTube. (Aisch et al., 2016)

Social media platforms show a growing amount of misinformation. It was recently suggested that about 47 million Twitter accounts are bots. (Varrol et al., 2017) That would be about 15 percent. Not only the Pizzagate scandal is of significant interest; other examples of influential misinformation campaigners include the MacronLeaks in the 2017 French presidential elections. (Ferrera., 2017)

At some point after the e-mails were leaked the focus at some point turned onto the Comet Ping Pong Pizzeria, which has a strong connection to the Democratic Party. (#83 Voyage into Pizzagate., 2016)

For this reason, a 28-year-old from North Carolina drove to Washington D.C. with a rifle and pistol on December 4, 2016. He entered the pizzeria to release the children who were to be lodged in the restaurant as part of an alleged child sex operation led by Hillary Clinton and her associates. However, he found no evidence that children were accommodated here and was handed over to the police. (Mihalidis, P., Viotty, S., 2017)

The Pizzagate event is an example of a new kind of spectacle that not only sticks to the mainstream media but also spreads through the active design of the audience. What was triggered by a rumor on the black boards like 4-Chan and Reddit escalated into a full-blown illusion, which provoked the bizarre behavior of the man. (Jenkins et al., 2018)

Literature


Mihalidis, P., Viotty, S. (2017): Spreadable Spectacle in Digital Culture: Civic Expression,
