Final Report

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Problem Statement

Social networking sites like facebook, twitter have changed the way people pursue social life and have made it easy to connect with family members, classmates, friends, colleagues and celebrities. Based on the data available for the second quarter of 2019 facebook has approximately 2.41 billion active users while twitter has 321 million active users. However, the number of fake profiles have increased manifold and research work of different researchers shows that 20% to 40% of the user profiles available on these sites are fake profiles. With the fast growth of users, fake profiles, users have also grown. These profiles are being used in malevolent ways to spread propaganda, different sorts of scams and other malicious activities. In order to tackle this problem, and to detect and minimise the number of fake profiles on facebook very few techniques do exist. We propose to explain and implement a model using which fake profiles can be detected on facebook, twitter.

implementation

We have implement supervised machine learning models, trained using cross validation and resampling, to detect the accounts denoted as fake in the dataset. The machine learning models we plan to use are neural networks as they were studied in the past research towards spam and bot detection. Our plan was to first understand these existing model and then figure out ways on improving this model.

Success Evaluation

Our model classifies a profile as fake or real. We were plannign to have an accuracy indicator (a percentage) with which the trained model classifies the profile as fake or real but due to time limit we removed it from current scope. Also, we used datasets provided here for testing this model.

Work Division

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We divided the research papers among us. We also divided the study of different types of models that can be used to for this problem. For programming and implementing models, we used the Jupyter Notebook and coordinated the work between us. Since we were working together most of the time, the features are divided equally between us. Most of our time was spent on research than on actual implementation.

Problems Faced

1. We went back and forth on whether to reduce the scope to just one particular social networking site (e.g. Facebook, Twitter) but in the end, due to the availability of dataset we decided to keep it to generic social networking profiles.
2. We faced an issue during implementation at the very end described here. It took us a while to get past that.

Results

Please refer the code_output.pdf for the result