ML1819 Research Assignment 1

Team 9

Twitter Users Gender Prediction

Team members:

Nicholas Bonello 18307199

Siddharth Tiwari 18300621

Zihan Huang 18300321

Work Contribution:

Nicholas Bonello:

Siddharth Tiwari:

Zihan Huang:

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Source Code Repository:

https://github.com/zihan0/ML1819-task-107-team-09.git

Source Code Repository Activity:

https://github.com/zihan0/ML1819-task-107-team-09/graphs/contributors

Commit activity:

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Nicholas Bonello  
School of Computer Science and Statics  
 Trinity College Dublin, University of Dublin  
 Dublin Ireland  
Bonellon@tcd.ie

Siddharth Tiwari  
 School of Computer Science and Statics  
 Trinity College Dublin, University of Dublin  
 Dublin Ireland  
stiwari@tcd.ie

Zihan Huang  
School of Computer Science and Statics  
 Trinity College Dublin, University of Dublin  
 Dublin Ireland  
 huangzi@tcd.ie

**ABSTRACT**

**1 INTRODUCTION (10)**

Gender prediction is an important tool that can be used to improve existing predictive models. Most existing works focusing on gender prediction through blogs or microblogs such as twitter generally focus on making use of analyzing the language used in text – in this case the tweets and user bio.

In this paper we investigate the possibility of predicting twitter users’ gender without analyzing the any language usages. Instead, we will be evaluating the potential of using simple statistical measures such as tweet counts, favorite counts per tweet, profile background colors and link colors. We will also be considering some simple tweet metrics such as the hashtag frequency, punctuation and even smileys to fully understand the differences between male and female twitter users.

**2 RELATED WORK (10)**

There are numbers of researches on predicting personal attributes based on social data [1]. Kosinski *et al.* demonstrated that even simple algorithms can predict personal attributes on the bias of the patterns of Facebook’s “likes,” an indicator of peoples’ preferences [2].

Also, this is not limited to academic fields, a service called Personality Insights was designed and developed by IBM, personality traits including the Big Five factors, needs, and values can be predicted by it [3].

**3 METHODOLOGY (30)**

1. *Data collection*

We looked up online and found a dataset of tweets and related information. This dataset has approximate 12,000 tweets, along with its creator’s gender, the time when it’s published, the side bar colour from the creator’s setting, the total tweet count from the creator, total count of favourite on this tweet, content of this creator’s description and tweet’s content.

1. *Data Processing*

Data processing was performed in several steps. We decided to plot the dataset using two features at a time in order to see if there exists a possible separating line. In order to do this, we need to process the text content into data that can be used to draw graph.

We calculated the length of each tweets, convert the hexadecimal color data to decimal.

We plotted the dataset using favorite count and total tweets count, and there’s no correlation shown to separate gender.

1. *Machine Learning Algorithm*

**4 RESULTS & DISCUSSION (30)**

**5 LIMITATIONS & OUTLOOK (5)**

ACKNOWLEDGMENTS

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