Natural Language Inference for Fake News Detection

2019 NLP Project 1

Task Description

Classification of news article

Given the title of a fake news article **A** and the title of a coming news article **B**, students are asked to classify **B** into one of the three categories.

- agreed: **B** talks about the same fake news as **A**
- disagreed: **B** refutes the fake news in **A**
- unrelated: **B** is unrelated to **A**

Data

Download: [link]

Example:
- A: 用大蒜鉴别地沟油的方法,怎么鉴别地沟油
- B: 吃了30年食用油才知道，一片大蒜轻松鉴别地沟油
  - Agreed

- A: "飞机就要起飞，一个男人在机舱口跪下！"这是最催泪的一幕
- B:「网警辟谣」飞机起飞前男人机舱口跪下？这故事居然是编的！
  - Disagreed

- A: 吃榴莲的禁忌,吃错会致命!
- B: 榴莲不能和什么一起吃 与咖啡同吃诱发心脏病
  - Unrelated

Data

csv format

```
1  id,tid1,tid2,title1_zh,title2_zh,title1_en,title2_en,label
2  0,0,1, 2017养老保险又新增两项，农村老人人人可申领，你领到了吗,警方辟谣"鸟巢大会每人领5万" 仍有老人坚持进京,There are two new old-age insurance benefits for old people
   in rural areas. Have you got them?,"Police disprove ""bird's nest congress each person gets 50,000 yuan"" still old people insist on going to beijing",unrelated
3  3,2,3,"""你不来深圳，早晚你儿子也要来""，不出10年深圳人均GDP将超香港",深圳GDP首超香港？深圳统计局辟谣：只是差距在缩小,"""""If you do not come to Shenzhen, sooner or later
   your son will also come.""" In less than 10 years, Shenzhen per capita GDP will exceed Hong Kong.",Shenzhen's GDP outstrips Hong Kong? Shenzhen Statistics Bureau
   dismisses rumors: only the gap is narrowing,unrelated
```

Evaluation

Weighted accuracy

- The weights of the three categories, agreed, disagreed and unrelated are **1/15, 1/5,1/16**, respectively.
- **sklearn.metrics.accuracy_score()** or **numpy.average()** given the weights

Report

- report.pdf (no more than 6 pages; font size 12pt; 中英皆可)
  - Name and ID
  - Division of Work
  - Methods
  - Experiments (ex. acuracy on validation set)
  - Discussion
  - Conclusion
- Code
  - Write the proper comment for each part and function
- Presentation (5 min)
  - State your idea, methodology, evaluation and conclusion clearly and logically
- Grading Policy
  - report: 60%; presentation: 30%, performance: 10%
  - Bonus: 1st~ 3rd +10%; 4th~6th +5%

Submission

- project1_team_<team number>.zip
  - report_team_<team number>.pdf
  - **submission_<team number>.csv**
  - code_team_<team number>
    - Readme
    - *script 1*
    - *script 2*
    - *...*

- project1_team_0.zip
  - report_team_0.pdf
  - **submission_0.csv**
  - code_team_0
    - readme.txt
    - function.py
    - main.py

Important Dates

- 3/28 release project 1
- 5/10 report and code submission due
- 5/15 slide submission due
- 5/16 presentaiton

Resource

1. Basic Siamese Network & LSTM: [link]
2. pytorch-pretrained-BERT: [link]
3. Handcraft feature : *Transferring, Transforming, Ensembling: The Novel Formula of Identifying Fake News* [link]
4. WSDM - Fake News Classification: [link]
5. Chinese dictionary: [link]
6. Quora Question Pairs - Can you identify question pairs that have the same intent?: [link]
7. {mhfu, thtang}@nlg.csie.ntu.edu.tw