Fake News Recognition

CS510 Information Retrieval Project Presentation

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Outline

- Technique
  - Fake News Challenge
  - Model
- Market
  - Societal Need
  - Competitors
  - How Our System Different
- Plan to Improve & Grow

Please visit the repository:
`https://github.com/XinyuZhou-1014/510Project-fakenews`
and the temporary website:
`http://52.25.226.169/index.html`

Fake News Challenge

- http://www.fakenewschallenge.org/
- A Challenge Aim to Recognize Fake News
- Given Headline and Body, Recognize Four Categories: Agree, Disagree, Discuss, Unrelated

Model

Features come from three parts:

- Baseline features come from FakeNewsChallenge baseline, 44 dimensions
- Word2vec features from Google pretrained Word2vec, 300 dimensions
- LDA features with 25 topics plus cos-similarity, 51 dimensions

Use LightGBM (light gradient boosting model)

- Fast, which is easier for rapidly re-train, thus good for model updating (10x fast than xgboost)
- Combine features together, which is meaningful in LDA features (final score much better than xgboost in our test)
- Calculate score for each class, giving clear prediction results

Societal Need

- What We Do?
  - Challenge All News Media
  - Escape from Information Overwhelming
  - Save Time
- Who need it?

  Everybody!

Competitors

- Competitors
  - Currently: Website such as **https://www.snopes.com/category/facts/fake-news/** **http://www.factcheck.org/fake-news/**
  - In the Future: Other FakeNews Challengers
- Our Advantages
  - Machine Learning Rather Than Manual Check
  - Fast Model
  - Open Source, Developing Potential

Improve

- Technique
  - Increase Accuracy
  - Deep Learning
  - Dynamic Model
- Functions
  - Browser Plugin: Mouse Hover, Tag Shown
  - Web App: Block ”Bad” News in Advance
  - Website Rating

Make Money

- Personalize Information Filter
- News Writing Guidance & Recommendation
- Other Text-Related Recommendation
- No Ads!
  (How weird an info-filter push crap info itself?)