

# **Decision Tools for Digital Content**

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# Content Optimization

**Can content providers  
predict “share-ability” to  
expand their reach?**

# Data Collection and Warehousing



## Web Scraping with BeautifulSoup

- 40,000 Mashable Articles
- Social Media Share Data



## Warehousing with MongoDB

- Unstructured Data

# Feature Engineering

## Meta Features



- No. of Pictures
- Day Published

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## NLP Features



- Language
- Sentiment

# Feature Engineering

## Meta Features



- No. of Pictures
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## NLP Features



- Language
- Sentiment

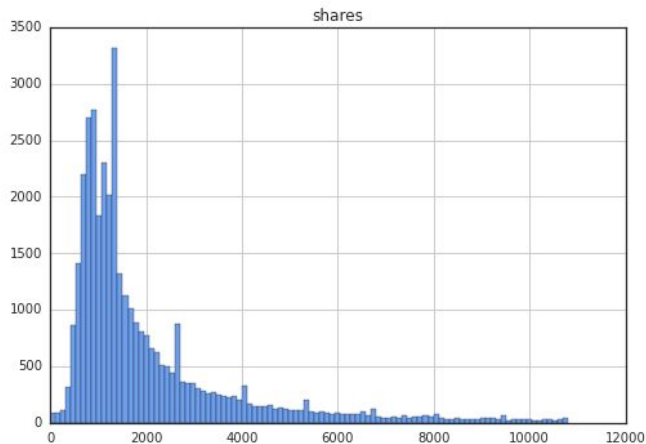
## Topic Features



- LDA Model Topic Distribution

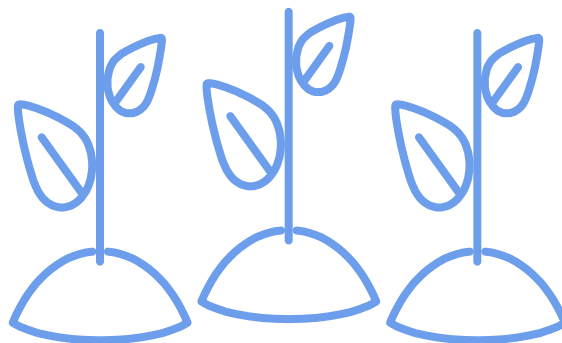
# Modeling “Share-ability”

## Number of Shares



- Poisson GLM

## 90th Percentile Prob (“Virality”)



- Random Forest
- Feature Importance



# User Experience

**Wrapping it all together  
with flask, d3.js and AWS**



# Mashable

## Digital Content Decision Engine

### Inputs

Sample Input

Headline:

Article Content:

Article Tags:

Expected Day Published:

Channel:

Images: 0

Analyze

# Mashable

## Digital Content Decision Engine

### Inputs

Sample Input

Headline:

Facebook rolls out suicide prevention tools in Australia

Article Content:

Many of us confess more about our feelings on Facebook than we might ever say face-to-face with another person. Recognising it could have a role to play in preventing self-harm, Facebook has come up with a number of suicide prevention tools to help people who may be depressed. The program launched in the U.S. in February, and is now rolling out in Australia, a Facebook spokesperson confirmed to Mashable Australia. In the U.S., Facebook partnered with local mental health initiatives including Forefront, Now Matters Now and the National Suicide Prevention Lifeline to develop the language around the initiative. In Australia, Facebook is working with BeyondBlue and Headspace in a collaboration announced Friday. Keeping people safe is our most important responsibility on Facebook, the spokesperson said. If someone thinks another person is considering suicide based on their Facebook posts, they are urged to call emergency services, but also to report the material to Facebook. The company said it has teams working around the clock to review.

Article Tags:

Australia, Facebook, Mental Health, Social Media

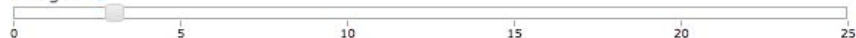
Expected Day Published: Friday

Friday

Channel: Social Media

Social Media

Images: 3



Analyze

# Mashable

## Digital Content Decision Engine

### Inputs

Sample Input

Headline:

Facebook rolls out suicide prevention tools in Australia

Article Content:

Many of us confess more about our feelings on Facebook than we might ever say face-to-face with another person. Recognising it could have a role to play in preventing self-harm, Facebook has come up with a number of suicide prevention tools to help people who may be depressed. The program launched in the U.S. in February, and is now rolling out in Australia, a Facebook spokesperson confirmed to Mashable Australia. In the U.S., Facebook partnered with local mental health initiatives including Forefront, Now Matters Now and the National Suicide Prevention Lifeline to develop the language around the initiative. In Australia, Facebook is working with BeyondBlue and Headspace in a collaboration announced Friday. Keeping people safe is our most important responsibility on Facebook, the spokesperson said. If someone thinks another person is considering suicide based on their Facebook posts, they are urged to call emergency services, but also to report the material to Facebook. The company said it has teams working around the clock to review

Article Tags:

Australia, Facebook, Mental Health, Social Media

Expected Day Published: Friday

Friday

Channel: Social Media

Social Media

Images: 3

0 5 10 15 20 25

Analyze

### Content Statistics

Word Count: 304

Rate of Unique Words: 0.55

Readability (Flesch):

50.2

Grade Level (Flesch-Kincaid):

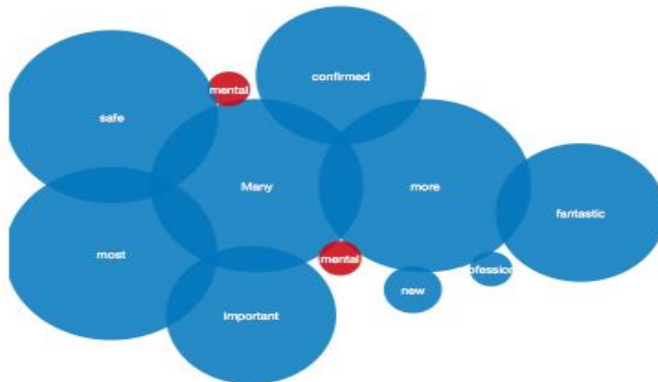
11.5

### Sentiment Analysis

Headline Polarity: 0

Content Polarity: 0.2

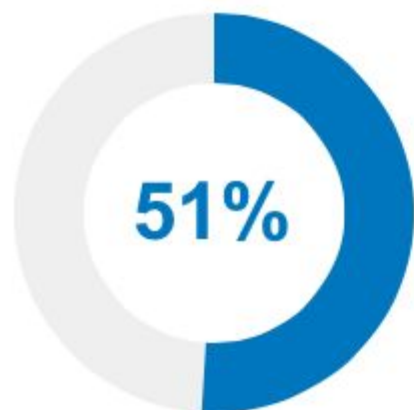
Polarity Bubble Chart:



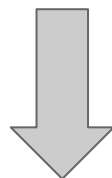
## Model Results

Predicted Shares: 2600

Virality Score:



Recommendations



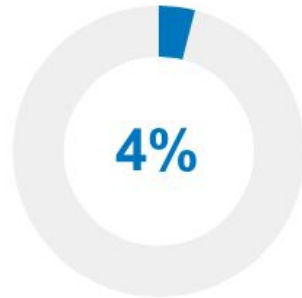
Recommend

Recommendation: **Publish on Sunday**

Mashable users share more content on the weekends. Consider publishing on Sunday for the following improvement in results --

Increase in Estimated Shares: **600**

Increase in Virality Score:



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Recommendation: **Add Additional Analysis**

Consumers of Mashable are more likely to share content containing un-biased analysis. Since the subjectivity of the content is less than .6, consider adding additional analysis over reporting.

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Recommendation: **Increase Rate of Positive Language**

Content containing higher instances of positive language tends to be more viral. Since the global rate of positive words is less than 5%, consider increasing the amount of positive language.

# THANKS!

## Any questions?

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