

# Understanding the Effects of Narrative Trajectories on the Popularities of Online News Articles

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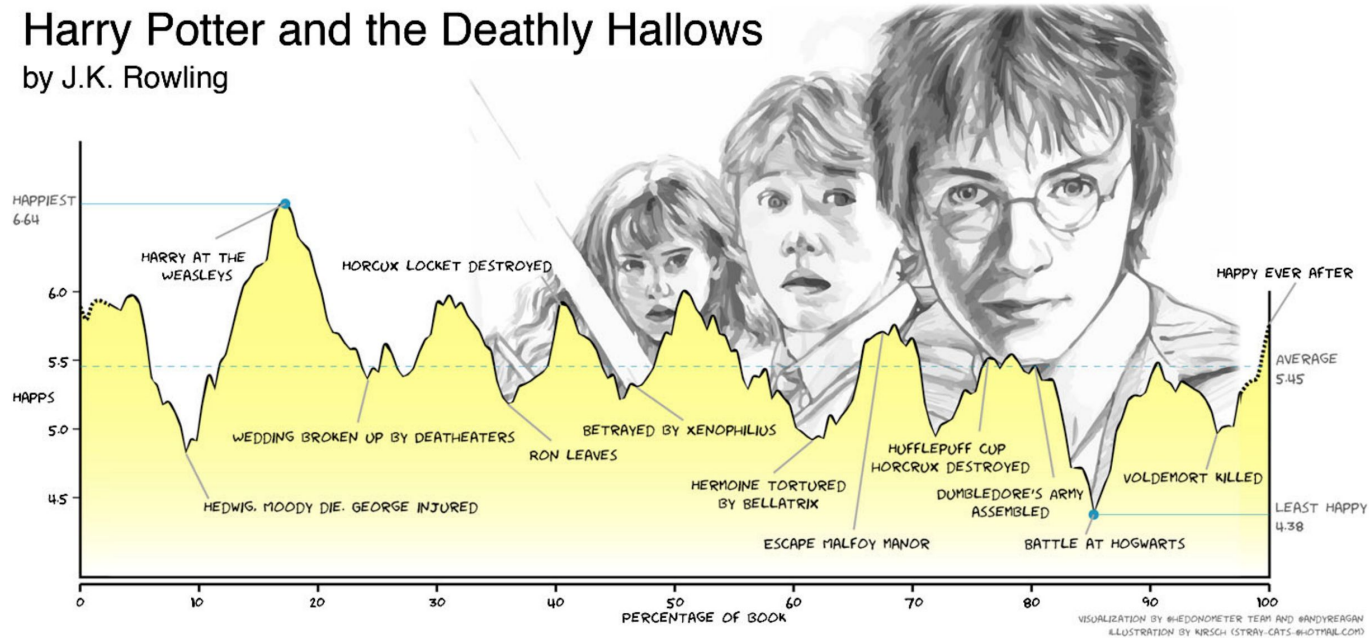
Date: December 11, 2018

# Overview

- Motivation
- Data Collection
- Preprocessing
- Analysis
- Results

# Motivation

## Harry Potter and the Deathly Hallows by J.K. Rowling



Reagan, A.J., Mitchell, L., Kiley, D., Danforth, C.M. and Dodds, P.S., 2016. The emotional arcs of stories are dominated by six basic shapes. *EPJ Data Science*, 5(1), p.31.

# Motivation



M. I. Tanveer, S. Samrose, R. A. Baten, and M. E. Hoque. Awe the audience: How the narrative trajectories affect audience perception in public speaking. In Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI), Montreal, Canada, April 2018


# Dataset

https://mashable.com/2013/12/05/santa-track-online/#q7lafhs3biqK

Mashable VIDEO ENTERTAINMENT CULTURE TECH SCIENCE SOCIAL GOOD SHOP MORE

## How to Track Santa Online

Share on Facebook Share on Twitter +



WHAT'S THIS?

**BY ERIC LARSON**  
DEC 05, 2013

Santa Claus is a peculiar fellow. Watching millions of kids around the world while they sleep? Making empty promises on elaborate gifts? Breaking into houses, damaging chimney structures and stockpiling half the world's baked goods?

Ho-ho-hold the damn phone, sir.

SEE ALSO: [The Holiday 2013 Tablet Gift Guide](#)

Unless you're an [NSA](#) employee or experienced hacker, it's tough to know — exactly — what

CULTURE  
Someone touched Parliament's special mace, and British Twitter is losing it

SCIENCE  
NASA spacecraft finds signs of water on Benu asteroid

SCIENCE  
NASA's Voyager 2 spacecraft is now flying through the stars

ENTERTAINMENT  
Disneyland's new Marvel attractions look pretty legit in new concept art

# Dataset

- 39,644 articles with urls
- 58 features (I don't use them!)
- **Target attribute:** Number of shares

# Dataset Pre-processing: Stage 1



BY LAURA  
VITTO

NOV 25, 2013

Not even Frosty the Snowman can escape winter [pranks](#).

YouTube jokester channel [Rip Films](#) returns with its annual scary snowman prank on holiday shoppers. And, this year, Frosty wants to make children cry.

[SEE ALSO: 50 Amazingly Epic Pranks](#)

The guys slipped back into their snowman suit and stood completely still on the streets of Boston, waiting to frighten unsuspecting passersby. What starts as joy at the sight of an innocent-looking snowman quickly turns to screams and yelps as the white figure lurches.

Add snowmen to the list of things to fear this holiday season. Just put it after fruitcake and awkward conversations with relatives.

[BONUS: YouTube Picks the 10 Best April Fools' Prank Videos](#)

**YouTube's Top 10 Prank Videos**

# IBM Watson Tone Analyzer

*"#ThisPhone is a useless, stupid waste of money."*

**Anger: 0.81**

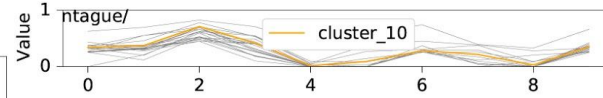
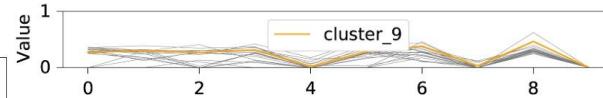
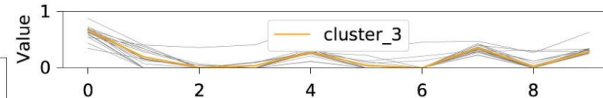
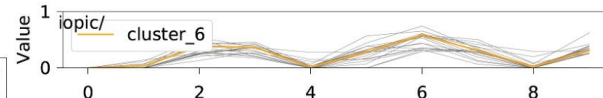
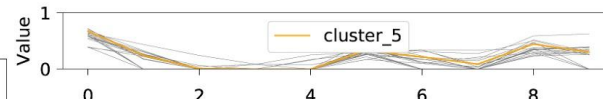
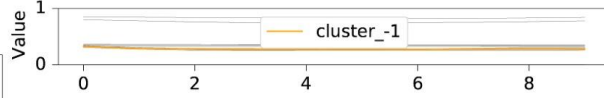
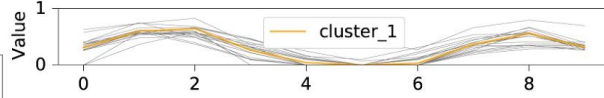
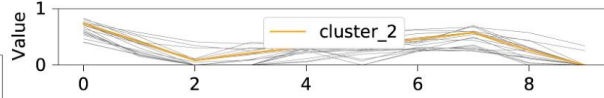
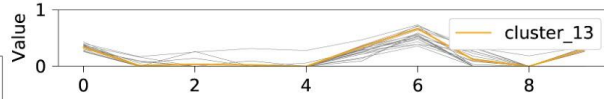
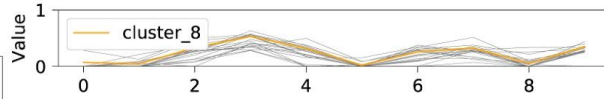
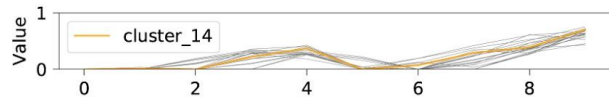
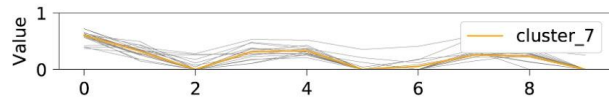
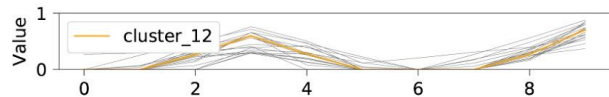
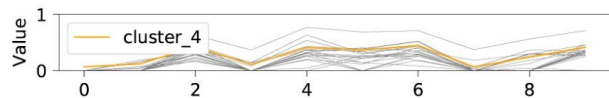
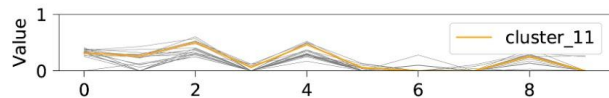


# Dataset Pre-processing: Stage 2

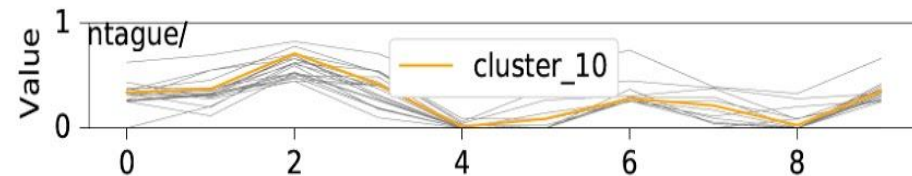
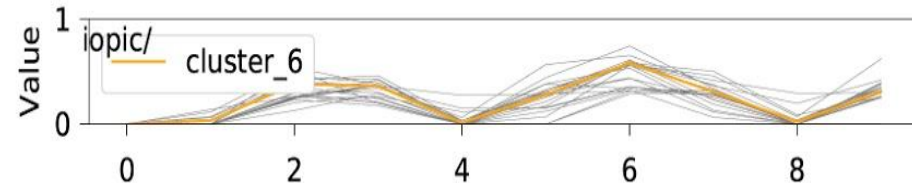
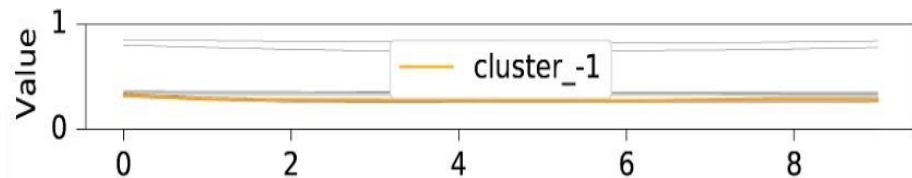
- Extract sentence-wise tones (13 tones each)
- Smoothen the signals
- Interpolate to have a length of 10 unit lengths

# DBScan Clustering: Tone 'joy'

joy



# Results



- Cluster 1 vs cluster 6
  - P-value: 0.02
- Cluster 1 vs cluster 10
  - P-value: 4.39e-09

\*Both p-values are Bonferroni corrected

# Insights

*Seesaw emotions ✓*  
*end on a positive note ✓*

*=> People will share your article more! 😊*

Thank You!