Folksonomication

Predicting Tags for Movies from Plot Synopses using Emotion Flow Encoded Neural Networks

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The 27th International Conference on Computational Linguistics (COLING 2018), 20-26 August 2018, Santa-Fe, New Mexico, USA





TAGS FOR MOVIES





FOLKSONOMICATION ...

Create tags from synopsis What is in the movie? How would I feel watching?

Emotion flow encoded neural network Learns ~18% more tags than feature based system











DATASET







MODEL ARCHITECTURE

Textual Representation

Flow of Emotions

Feedforward Module





TEXTUAL FEATURES USING CNNs





I am getting emotional !!!







*Illustration of Kurt Vonnegut: Kathryn Rathke

(<u>https://www.theispot.com/whatsnew/2012/1/kathryn-rathke-kurt-vonnegut.htm</u>) * The emotional arcs of stories are dominated by six basic shapes (AJ Reagan et al., 2016)



EMOTIONS IN MOVIE



Tracking flow of emotions in the synopses

Joy

winner, love, bridesmaid, kiss, shopping

Trust

wonderful, perfect, real, mother, inspired, defended

Sadness

homeless, lie, debt, upset

Anger

Stolen, hot, horrible, insulting

Fear

nervous, avoid, homeless, war, danger

Disgust

sick, horrible, lie, thrift, furious, homeless



* Crowdsourcing a word-emotion association lexicon. (Mohammad et al., 2013)

CAPTURING FLOW OF EMOTIONS







FEEDFORWARD MODULE





TRAINING



EVALUATION

Predict 3, 5, 10 tags







RESULTS (TOP 5 TAGS)

	Tags Learned	Micro F1	Tag Recall	
Baseline: Most Frequent	5	28.4	14.08	
Baseline: Random	71 6.4		15.04	
Baseline: Features	52	37.3	16.77	
CNN	26	36.7	12.62	
CNN with Class weights	55	35.7	14.94	
CNN + Flow of Emotions	65	36.7	14.11	



LETS TRY SOME MOVIES



INCOMPLETENESS IS HURTING!!!



christian film, murder, intrigue, melodrama, romantic

murder, romantic, violence

Storyline

Biography of Martin Luther, the 16th-century priest who led the Christian Reformation and opened up new possibilities in exploration of faith. The film begins with his vow to become a monk, and continues through his struggles to reconcile his desire for sanctification with his increasing abhorrence of the corruption and hypocrisy pervading the Church's hierarchy. He is ultimately charged with heresy and must confront the ruling cardinals and princes, urging them to make the Scriptures available to the common believer and lead the Church toward faith through justice and righteousness. *Written by scgary66*



Edit

https://www.christianfilmdatabase.com/review/luther-2



HOW EMOTION FLOW IS HELPING?







LEARNING OR COPYING?

~3K test movies :: 14,830 predicted tags :: 11.8% in plot

~11K training movies :: 9,022 ground truth tags :: 12.7% in plot

is_tag && in_synopses:	<pre>is_tag && not in_synopses:</pre>
horror	thought-provoking
violence	feel-good
historical	suspenseful

Having tags in synopses != crime. They have value. Model is learning !!!



DIFFERENT BOTTLES, SAME WINE

SCRIPT = DETAIL

PLOT SYNOPSIS = SUMMARY

80 Scripts (Scriptbase)		STORY = SAME		een Scrints and	Synonses	
	Tags Learned	Micro F1	Tag Recall	11.4%		 >=80% >=40% & <80% >=20% & <40%
Scripts	55	35.7	14.94		40.5%	• > = 20 % & < +0 %
Synopses	65	36.7	14.11	48.1%		



 * Movie script summarization as graph-based scene extraction. (Gorinsky et al., 2015)



FUTURE WORK

Improve Model Performance

Better Evaluation Approach (Ranking?)

Human Evaluation of Model Predictions

How Experiences are Created in Stories?





THANK YOU

Live Demo :

Select a movie from here to load the plot synopses.

Paste the Synopsis here or select one movie from the menu.

The film begins during a thunderstorm in 1505, as Luther is returning to his home. For fear of losing his life in the storm, Luther commits his life to God and becomes an Augustinian monk.

Two years late, Luther is a monk at St. Augustine's Monastery in Erfurt. During his time at the monastery, he is constantly troubled by viewing God as a God of hate and vengeance. Martin is encouraged by Johann von Staupitz, an elder monk who is his supervisor and mentor. Staupitz tells Luther to look to Christ instead of himself.

Later, Luther delivers a letter for Staupitz to Rome, where he becomes troubled by the wicked lifestyles of those in the city. He also views the skull believed to be that of John the Baptist and purchases an indulgence. It is during this time that Luther begins to question the veracity of indulgences. Returning to Germany, Luther is sent to Wittenberg, where he begins to teach his congregation that God is not a God of hate, but a God of love. Luther begins to emphasize the love of God instead of his judgment.

Johann Tetzel then comes close to Luther's town, where he scares the people into buying indulgences. The proceeds will be used to rebuild and renovate St. Peter's Basilica in Rome, and to recover the Hohenzollern bribes to the Holy See, advanced by Fugger, for the investiture of Archbishop Albert of Mainz and Magdeburg). In his church, Luther denounces the indulgences, calling them "just a piece of paper". He then posts his 95 theses on the door of the church, calling for an open debate regarding the indulgences. For this act, Luther is called to Augsburg, where he is



Try the online demo!

Source is available

ritual.uh.edu/folksonomication-2018

Acknowledgement







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