THE UNIVERSITY OF WESTERN AUSTRALIA

NovelPersepective

Identifying point of view characters

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What? Why? Why are you doing this to books?

Many novels, especially epic fantasy series, are written from the Point of View (POV) of many different characters.

They feature parallel sub-stories tracking the journey of each POV character.

Readers sometimes wish to read just one characters story; particularly for example on a second read through.

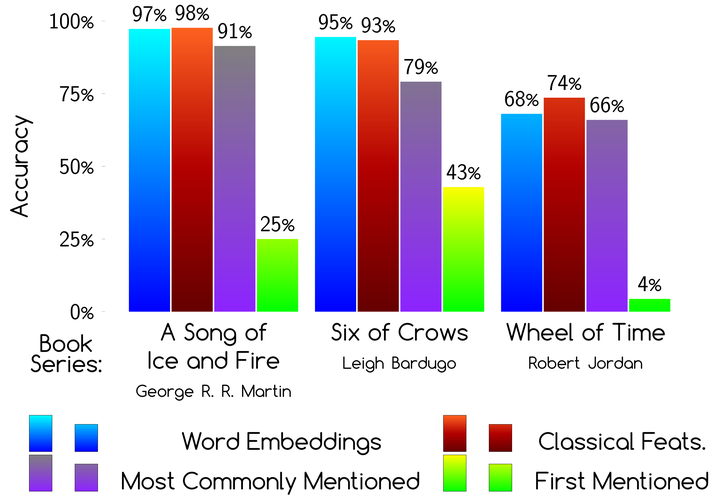
We have made a tool that allows the user to slice-up and restitch their ebooks around each POV character.

The challenging part is that most books do not label the sections with the name of the POV character, rather the reader works it out.

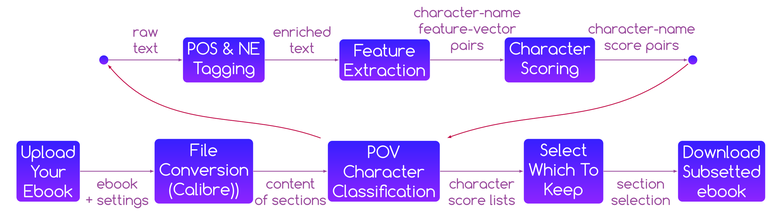
The source code is publicly available

MIT Licensed
https://github.com/oxinabox/NovelPerspective
Built on CherryPy, NLTK, Scikit-Learn, EbookLib and Calibre

Results



The process for subsetting ebooks by POV



Baseline methods for determining POV

First Mentioned Named Entity

Features: first occurrence of named entity token in the section
Scoring: earliest mentioned scores highest, $S_i = 2^{-rank(f_i)}$
Result: terrible: other named entities often occur before the POV.

Most Commonly Mentioned Named Entity

Features: number of occurrences of named entity token in section
Scoring: most mentioned scores highest, $S_i = \frac{f_i}{\sum_{\forall j} f_j}$
Result: solid, but fooled by descriptions focusing on others.

Machine learning methods for determining POV

Classical Features

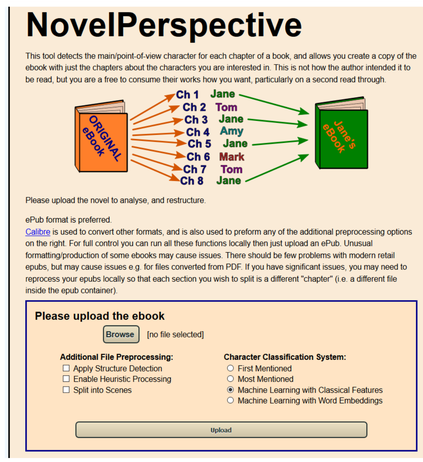
Features: position, and occurrence frequency, plus parts of speech cooccuring frequency. Total 200 dimensions.
Scoring: use logistic regression model on if POV or not, $S_i = \frac{P(f_i)}{\sum_{\forall j} P(f_j)}$
Result: really strong. Main characters occur near verbs and grammar. This gives an edge over frequency information alone.

Word Embeddings

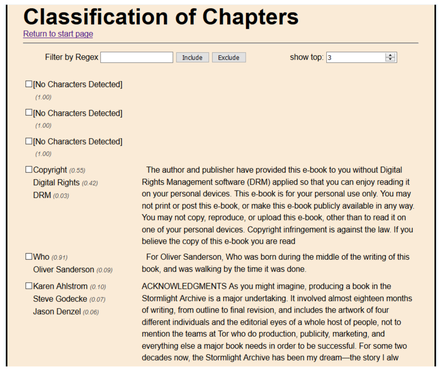
Features: Concatenated the mean of FastText word embeddings for adjacent words. Total 600 dimensions.
Scoring: use RBF-SVM model on if POV or not, $S_i = \frac{P(f_i)}{\sum_{\forall j} P(f_j)}$
Result: really strong. However, due to high dimensionality needs sufficient training data from other labelled books.

What does it look like?

Upload your ebook



Select which sections to keep



Demonstration on *"Words of Radiance"* by Brandon Sanderson.
Using the classical features method.

Sections are labelled by POV & score

http://novelperspective.ucc.asn.au/