Распознавание и классификация текста

Рубанова Валерия, 5030102/00201

Pipeline проекта

- Входные данные: изображение с текстом
  - Распознавание текста: слова на изображениях распознаются и превращаются в текст
  - Классификация текста: полученный текст классифицируется по категориям.
- Выходные данные: категория текста

Входные данные: отзывы с IMDB

The Trailer was better than the Movie ..
Avid_Movie_Viewer 30 January 2014

Warning: Spoilers

I had expectations from the trailer that this would be a tale of a protagonist that had some social shortcomings and how time travel would help him overcome them to fall in love.

Instead the movie appeared to be a quest by our protagonist to appear smooth and suave with women in manufactured relationship. Our protagonist Tim pursues two young women\girls in the film. One was puppy love that never comes to fruition and the other was completely manufactured by the time travel. I never saw a connection between Tim and Mary. We're supposed to believe that they fall in love with each other the very first day they meet. That was a bit much to believe. Worse is that he uses the time travel to manufacture the relationship. That's not love it's a guy manipulating someone.

Tim appeared like a needy guy who didn't want to do anything to screw up and end a relationship. He did screw up and end the relationships on multiple occasions but with the time travel he went back and fixed it. Funny but the relationship came off as not genuine.

The relationship between Tim and his dad appeared very genuine from beginning to end. That was the strength of this movie.

I actually thought our hero Tim would be forced to sacrifice his manufactured relationship with Mary with something important that would require him to time travel back before meeting Mary or having his children. There was a chance for this with his sister's accident or his father's death but Tim chooses to help himself instead which left me disappointed that everything was so easy.

This movie had potential but it took the road most traveled.

Worthless sentimental trash
simonmills47 9 October 2019

I have nothing more to say about this terrible film beyond the title of my review.

Bad Ripoff of the Truman Show
nickgrande 23 September 2022

Warning: Spoilers

Harry styles can NOT act. Florence and Chris tried to save the movie but ultimately couldn't. The movie was very predictable, the "twist" was an exact copy of the truman show. And it was underwhelming. Harry Styles acting was laughable. There were so many plot holes and things that even at the end of the movie don't even make sense. Especially the last car scene seems like olivia just wanted to get action shots for the trailer. It's also kind of funny that she said the movie ratings reflect the skill of the director and this movie is getting bad reviews. The only way this movie gets good reviews will be from Harry Style fans that can't admit that he can't act. Movie sucks.

Как собирались данные

- Для обучения pytesseract – не собирались
- Для обучения классификатора использовался IMDB датасет с kaggle.
- Для тестирования использовались скриншоты с IMDB, которые я сама сделала и разметила.

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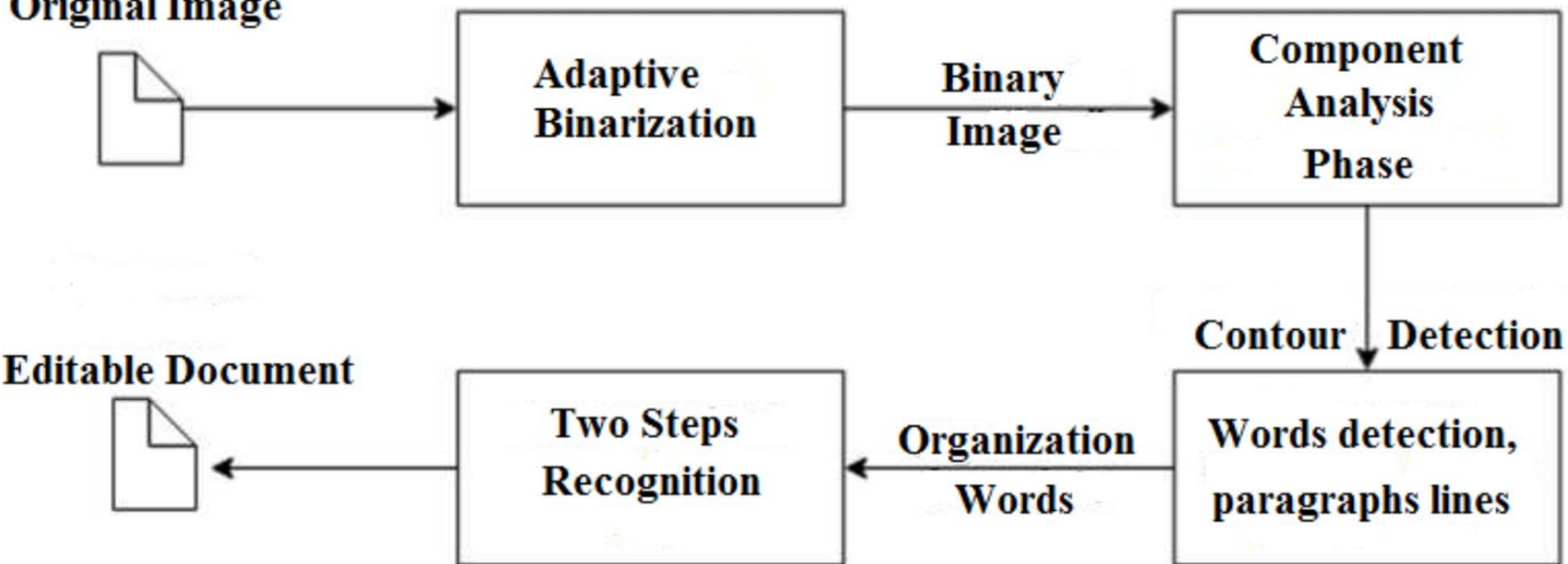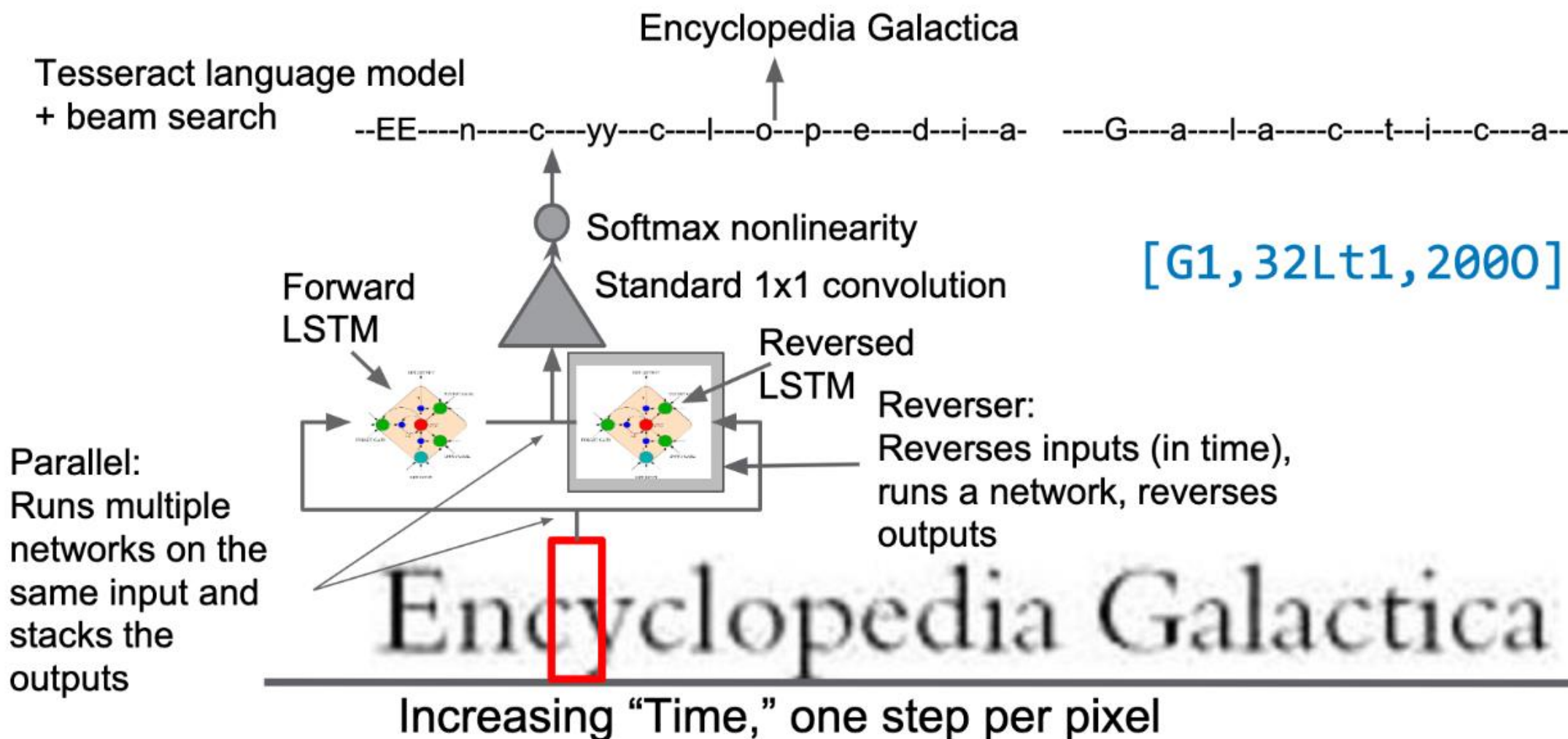
How Tesseract uses LSTMs...

Encyclopedia Galactica

Tesseract language model
+ beam search

--EE----n----c---yy---c---l---o--p--e---d--i--a-   ----G---a---l--a----c---t--i---c---a--

Softmax nonlinearity

Forward
LSTM

Standard 1x1 convolution

[G1,32Lt1,200O]

Reversed
LSTM

Reverser:
Reverses inputs (in time),
runs a network, reverses
outputs

Parallel:
Runs multiple
networks on the
same input and
stacks the
outputs

Increasing "Time," one step per pixel

Классификатор

- MultinomialNB (Multinomial Naive Bayes) - это алгоритм классификации, основанный на методе наивного байесовского классификатора. Он используется в машинном обучении для решения задач классификации с дискретными (частотными) признаками.

- MultinomialNB особенно полезен, когда признаки представлены в виде целых чисел, таких как количество слов в документе или частота появления разных слов. Это часто применяется в приложениях анализа текста, таких как классификация документов, спам-фильтры или анализ тональности текстов.

- Однако MultinomialNB имеет предположения о распределении данных, такие как мультиномиальное распределение, простое предположение о независимости признаков и отсутствие взаимодействия между ними. Если эти предположения не выполняются, то MultinomialNB может давать плохие результаты. Поэтому перед использованием MultinomialNB всегда необходимо проверить, соответствуют ли его предположения данным задачи.

Качество работы

- Точность модели на тестовой выборке из 40 изображений до предобработки текста: 87.5%

- После – 90%

- Ошибки 1 рода (false positive) возникают, когда алгоритм классификации неправильно предсказывает, что отзыв является позитивным, хотя на самом деле он негативный.
  - Ошибка 1 рода в моей реализации возникает на 4 тестовых изображениях.

- Ошибки 2 рода (false negative) возникают, когда алгоритм классификации неправильно предсказывает, что отзыв является негативным, хотя на самом деле он позитивный.
  - Ошибок 2 рода в моей реализации нет.

Примеры верного срабатывания

"Terrible, terrible joy."
benjaminskylerhill   10 December 2022

With less than 1/4 of the budget of the soulless Disney live action remake earlier this year, Del Toro & Co. Have managed to craft a version of Pinocchio with more personality, heart, and soul than Disney could have dreamed of crafting.

It injects new life into the character by telling a story that is vastly different both narratively and thematically than any version we've seen on screen before.

This tale deals with the malleability of identity, unconditional love, the impressionable nature of children, and the close link between joy and sorrow. And it does so with dark wit, refreshingly complex three-dimensional characters, and stunningly haunting stop-motion animation.

However, I do think this could have benefited a bit from cutting down on the plethora of plot points and having Pinocchio and Geppetto spend more time together. This version lacks the tight focus and brisk pacing of the 1940 version.

But aside from this, I was thoroughly entranced by this dark fairy tale. It has a spine and a soul, and unlike it's titular protagonist, it's far from wooden.

The absolute worst.
Viation   7 September 2019

As a man in my early twenties, RomComs are my guilty pleasure. I like them, I really do. And I've watched really bad ones and still liked them. Whether it was for their relatable characters or their main cast, there's almost always something positive I can "cling" to, even in the bad RomComs. But this one was too much. While the gist of the story would theoretically make for a good movie, gigantic plot holes, illogical use of the main character's time traveling ability and the incredibly dumb (that painfully, cringe inducing kinda dumb, not the cute kinda dumb) behavior of the main character make this unwatchable for me. I realize I'm not necessarily the target audience but I would recommend staying away from this even if you are.

Примеры ложного срабатывания

Bad (clearly a man wrote the screenplay)
oliviakd 6 December 2020

Warning: Spoilers

The protagonist faces no consequences for manipulating women or any of his actions in general. I'm not sure what the point of this movie is, it ends with the protagonist learning he needs to reflect on the good parts of his life as if there were any bad moments. The only thing that really stood out for me was how this film managed to anger and bore me simultaneously.

Incredibly boring
cdmarker2001 7 November 2021

The whole movie was honestly lacking in all areas... it wasn't exciting, dramatic, suspenseful, funny... nothing. The plot was dull, slow paced, the acting was bland. The time traveling aspect is the only intriguing part and even that wasn't enough to keep things interesting. 2 hours I would like to get back.

I don't understand how this has as high of a rating as it does.