

ATM: Attentional Text Matting

Supplementary Material

A. Supplement

A.1. Applying on Real Images

We apply our method and baseline image matting methods on more real images and compare their qualitative results. Figure 1 and Figure 2 present their text matting performance on real English posters. Figure 3 and Figure 4 present their text matting performance on real Chinese posters. These four figures clearly demonstrate the superiority of our method over previous image matting methods on the task of text matting. In addition, compared with SHM [1], our method is better at focusing on the interested text regions. This indicates the effectiveness of the attentional text region detector in our method.

A.2. Visualization of Our Method

We visualize the intermediate results of our method in Figure 5 to help readers understand our method well. The first column is the original input image. The second column is the detection result from the attentional text region detector. Afterwards, each detected region is sent to T-Net to get the trimap prediction shown in the third column. Then, each detected region and trimap prediction are sent to M-Net to get the matte prediction for the detected region. Finally, the post-processing module filters out false detected regions based on matte predictions. The last column presents the final matte prediction of our method.

A.3. Poster Generation

As we mentioned in the paper, we build a simple poster generation system. This system accepts a new input movie background and the extracted movie title as its inputs. And it randomly chooses a paste position from the position set P [top-left, top-middle, top-right, middle, bottom-left, bottom-middle, bottom-right]. Finally, based on the paste position, the poster generation system re-composites the new input movie background with the extracted movie title to obtain a new creative poster.

Figure 6, 7, 8, and 9 demonstrate the English and Chinese poster generation performance. More specifically, the first column is the original posters, we utilize our text matting method to extract the movie titles from these posters.

The extracted movie titles are shown in the second column. The third column shows the new input movie backgrounds. And the last column presents the new generated creative posters from our poster generation system. As shown in the last column, our poster generation system is able to generate high-quality posters.

References

- [1] Quan Chen, Tiezheng Ge, Yanyu Xu, Zhiqiang Zhang, Xinxin Yang, and Kun Gai. Semantic human matting. In *2018 ACM Multimedia Conference on Multimedia Conference*, pages 618–626. ACM, 2018.

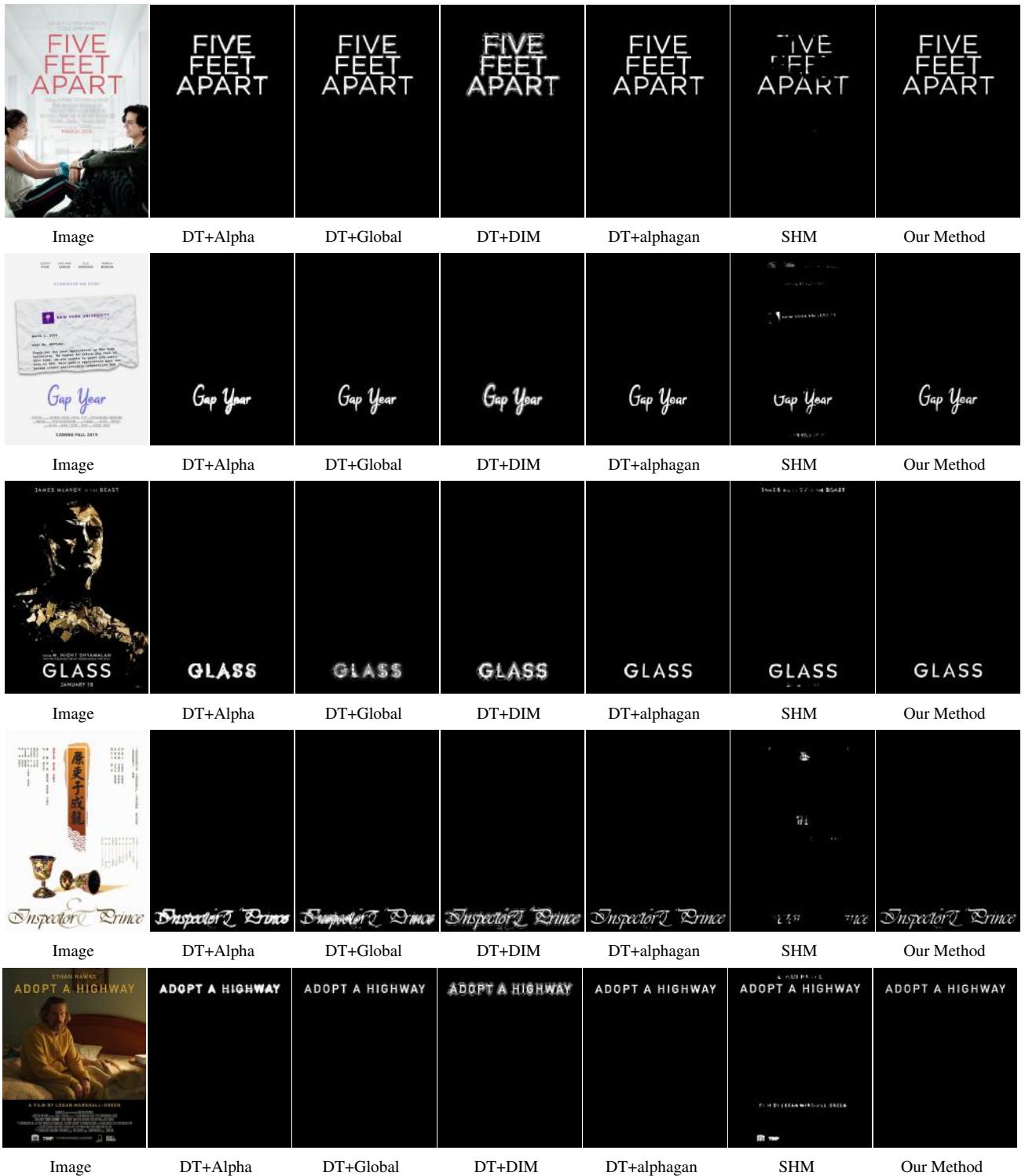


Figure 1. The qualitative results of our method and baseline matting methods with the generated trimap from attentional text region detector and T-Net on real English posters



Figure 2. More qualitative results of our method and baseline matting methods with the generated trimap from attentional text region detector and T-Net on real English posters

Image	DT+Alpha	DT+Global	DT+DIM	DT+alphagan	SHM	Our Method
Image	DT+Alpha	DT+Global	DT+DIM	DT+alphagan	SHM	Our Method
Image	DT+Alpha	DT+Global	DT+DIM	DT+alphagan	SHM	Our Method
Image	DT+Alpha	DT+Global	DT+DIM	DT+alphagan	SHM	Our Method
Image	DT+Alpha	DT+Global	DT+DIM	DT+alphagan	SHM	Our Method

Figure 3. The qualitative results of our method and baseline matting methods with the generated trimap from attentional text region detector and T-Net on real Chinese posters

Image	神奇女侠	神奇女侠	神奇女侠	神奇女侠	神奇女侠 © 2017 DC Comics	神奇女侠
	神奇女侠	神奇女侠	神奇女侠	神奇女侠	神奇女侠 © 2017 DC Comics	神奇女侠
Image	DT+Alpha	DT+Global	DT+DIM	DT+alphagan	SHM	Our Method
	彭德懷元帥	彭德懷元帥	彭德懷元帥	彭德懷元帥	彭德懷元帥	彭德懷元帥
Image	DT+Alpha	DT+Global	DT+DIM	DT+alphagan	SHM	Our Method
	羅曼蒂克三士	羅曼蒂克三士	羅曼蒂克三士	羅曼蒂克三士	羅曼蒂克三士	羅曼蒂克三士
Image	DT+Alpha	DT+Global	DT+DIM	DT+alphagan	SHM	Our Method
	黑客帝国	黑客帝国	黑客帝国	黑客帝国	黑客帝国 THE MATRIX	黑客帝国
Image	DT+Alpha	DT+Global	DT+DIM	DT+alphagan	SHM	Our Method
	中国合伙人	中国合伙人	中国合伙人	中国合伙人	中国合伙人	中国合伙人

Figure 4. More qualitative results of our method and baseline matting methods with the generated trimap from attentional text region detector and T-Net on real Chinese posters



Input Image

Detection Result

Trimap Prediction

Matte Prediction

Figure 5. Intermediate Visualization of Our Method



Sample Poster

FIVE
FEET
APART

Extracted Movie Title



Input Background



New Creative Poster



Sample Poster

Gap Year

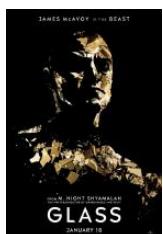
Extracted Movie Title



Input Background



New Creative Poster



Sample Poster

GLASS

Extracted Movie Title



Input Background



New Creative Poster



Sample Poster

Inspector Prince

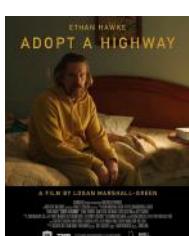
Extracted Movie Title



Input Background



New Creative Poster



Sample Poster

ADOPT A HIGHWAY

Extracted Movie Title

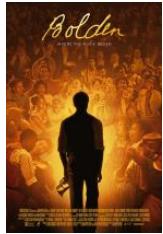


Input Background



New Creative Poster

Figure 6. English Poster Generation



Sample Poster

Bolden

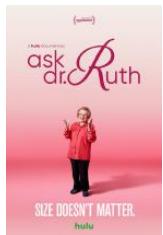
Extracted Movie Title



Input Background



New Creative Poster



Sample Poster

ask dr. Ruth

Extracted Movie Title



Input Background



New Creative Poster



Sample Poster

COLD PURSUIT

Extracted Movie Title



Input Background



New Creative Poster



Sample Poster

ISN'T IT ROMANTIC

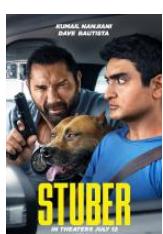
Extracted Movie Title



Input Background



New Creative Poster



Sample Poster

STUBER

Extracted Movie Title



Input Background



New Creative Poster

Figure 7. More English Poster Generation

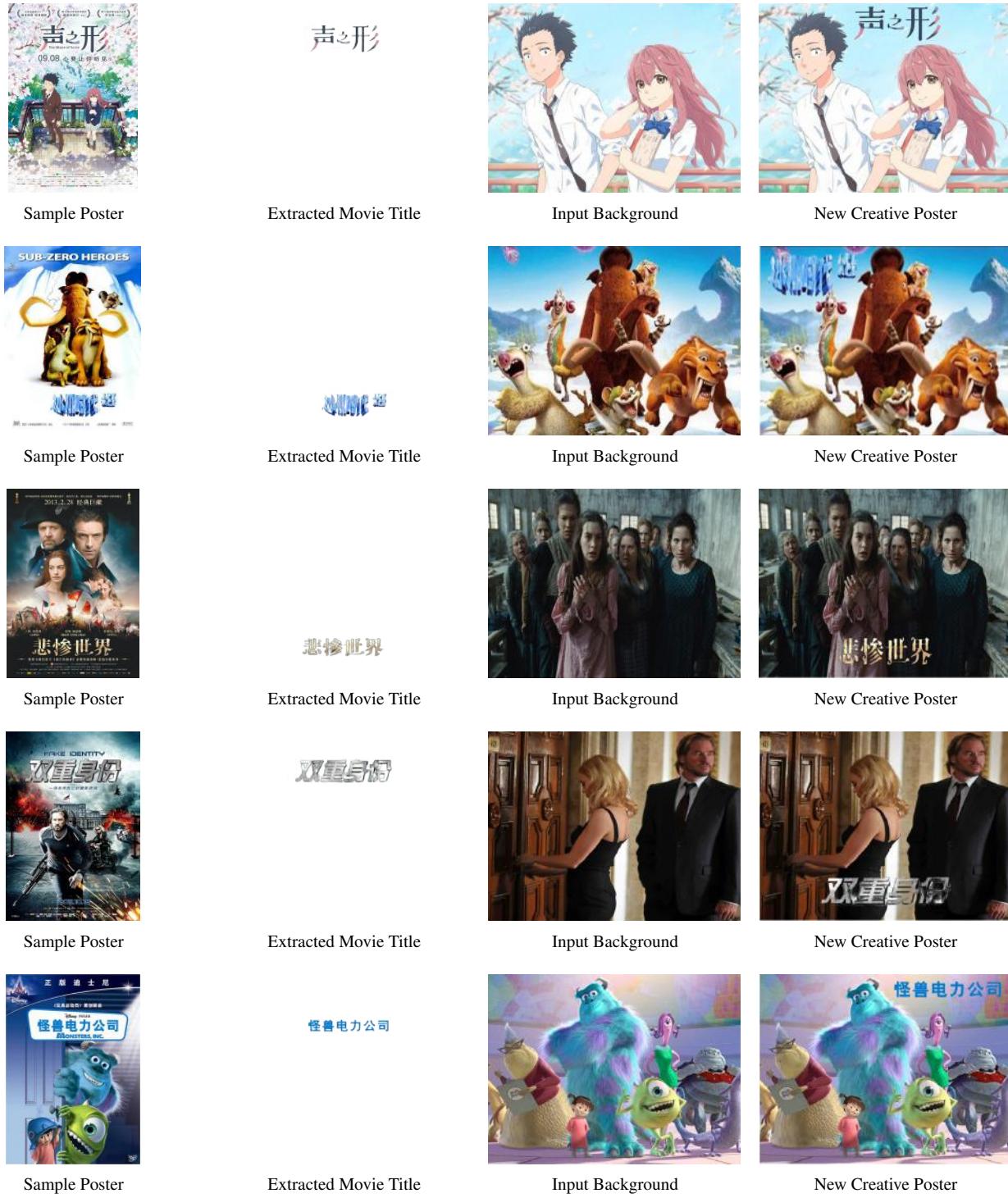


Figure 8. Chinese Poster Generation



Sample Poster

神奇女侠

Extracted Movie Title



Input Background



New Creative Poster



Sample Poster

彭德懷元帥

Extracted Movie Title



Input Background



New Creative Poster



Sample Poster

羅曼蒂克史

Extracted Movie Title



Input Background



New Creative Poster



Sample Poster

黑客帝国

Extracted Movie Title



Input Background



New Creative Poster



Sample Poster

中国合伙人

Extracted Movie Title



Input Background



New Creative Poster

Figure 9. More Chinese Poster Generation