

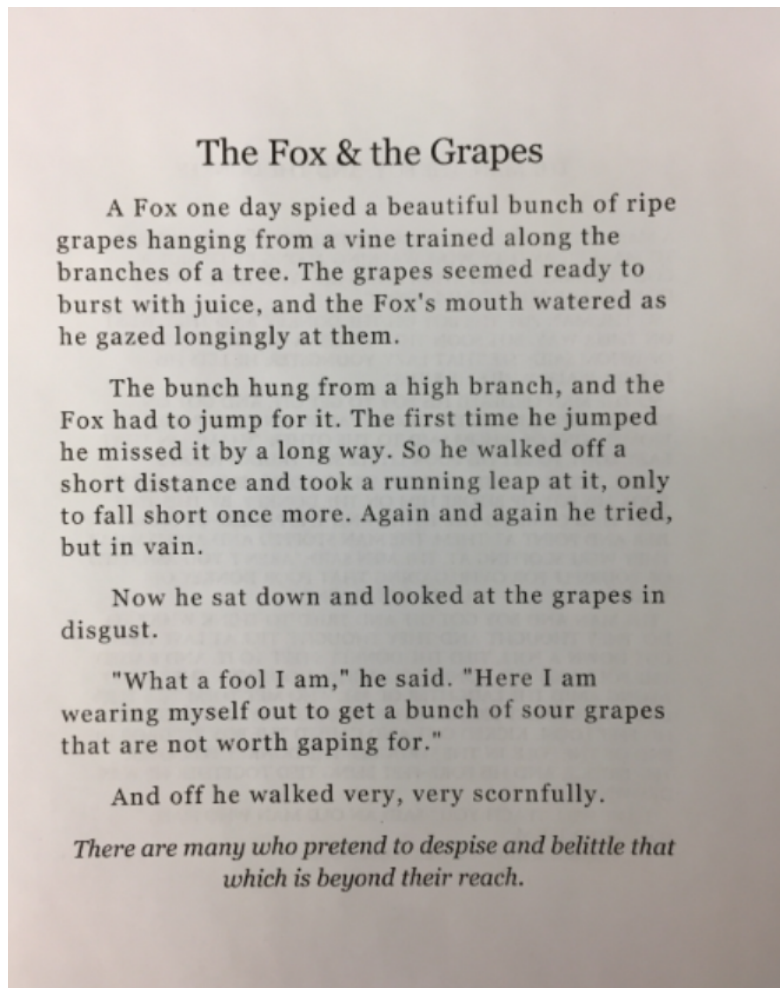
## Appendix A.

The following are sample runs for the three images referred to in our report.

### 1. Image 1: aesop\_fox.png

```
Jiwons-MBP:code Jiwon$ python driver.py data/aesop_fox.png es ko hi ja
===== Welcome to James' text recognition and translation software! =====
Total of 139 words detected.
Output successfully written in original language.
Output successfully written in Spanish.
Output successfully written in Korean.
Output successfully written in Hindi.
Output successfully written in Japanese.
Unfortunately, I don't think there's enough evidence to conclude that this
is a JHU document...
===== Good Bye! =====
```

Command line argument and standard out.



Original input image aesop\_fox.png, unprocessed.

## The Fox & the Grapes

A Fox one day spied a beautiful bunch of ripe grapes hanging from a vine trained along the branches of a tree. The grapes seemed ready to burst with juice, and the Fox's mouth watered as he gazed longingly at them.

The bunch hung from a high branch, and the Fox had to jump for it. The first time he jumped he missed it by a long way. So he walked off a short distance and took a running leap at it, only to fall short once more. Again and again he tried, but in vain.

Now he sat down and looked at the grapes in disgust.

"What a fool I am," he said. "Here I am wearing myself out to get a bunch of sour grapes that are not worth gaping for."

And off he walked very, very scornfully.

*There are many who pretend to despise and belittle that which is beyond their reach.*

Processed input image aesop\_fox\_thresh.png.

The Fox 8: the Grapes

A Fox one day spied a beautiful bunch of ripe grapes hanging from a vine trained along the branches of a tree. The grapes seemed ready to burst with juice, and the Fox's mouth watered as he gazed longingly at them.

The bunch hung from a high branch, and the Fox had to jump for it. The first time he jumped he missed it by a long way. So he walked off a short distance and took a running leap at it, only to fall short once more. Again and again he tried, but in vain.

Now he sat down and looked at the grapes in disgust,

"What a fool I am," he said. "Here I am wearing myself out to get a bunch of sour grapes that are not worth gaping for."

And off he walked very, very scornfully.

*There are many who pretend to despise and belittle that which is beyond their reach.*

Text output in English. (aesop\_fox\_output.txt)

### El zorro 8: las uvas

Un zorro un día vio un hermoso racimo de maduros  
Uvas que cuelgan de una vid entrenada a lo  
largo Ramas de un árbol ° Las uvas parecían listas para  
Ráfaga de jugo, y la boca del zorro se  
Los contemplaba con ansia.

El racimo colgaba de una rama alta, y el  
Fox tuvo que saltar por ella. La primera vez que saltó  
Él lo perdió a lo largo del camino. Así que se fue de un  
Corta distancia y dio un salto de carrera en ella, sólo  
Para quedarse corto una vez más. Una y otra vez intentó,  
pero en vano

Ahora se sentó y miró las uvas asco,

“Qué herramienta soy”, dijo. “Aquí estoy  
Poniéndome a mi lado para obtener un montón de uvas agrias  
Que no vale la pena boquiabierto foro”

Y él caminó muy, y y scorntully.

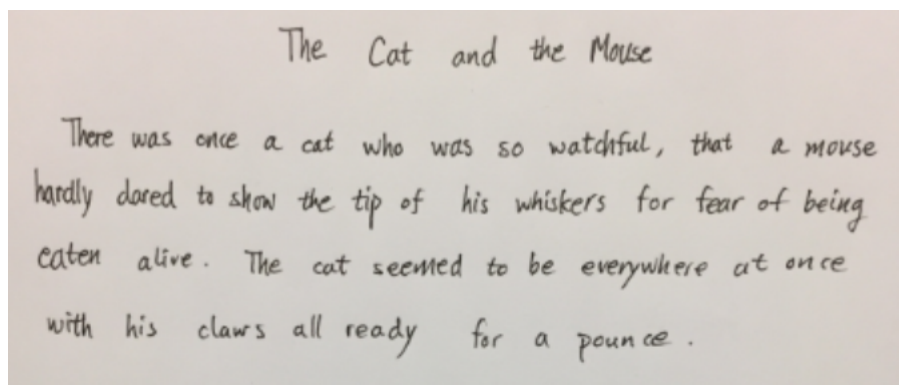
Hay muchos que pretenden despreciar y menospreciar eso Que  
está fuera de su alcance.

Text output in Spanish. (aesop\_fox\_output\_es.txt)

## 2. Image 2: hand\_cat.png

```
Jiwons-MBP:code Jiwon$ python driver.py data/hand_cat.png es ko hi ja
===== Welcome to James' text recognition and translation software! =====
Total of 46 words detected.
Output successfully written in original language.
Output successfully written in Spanish.
Output successfully written in Korean.
Output successfully written in Hindi.
Output successfully written in Japanese.
This is a JHU document!!! Go Hopkins!
===== Good Bye! =====
```

Command line argument and standard out.



Original input image hand\_cat.png, unprocessed.

The Cat and the Mouse

There was once a cat who was so watchful, that a mouse hardly dared to show the tip of his whiskers for fear of being eaten alive. The cat seemed to be everywhere at once with his claws all ready for a pounce.

Processed input image hand\_cat\_thresh.png.

```
TIM Cat and "ii/'5 WW

Wage was we a cwé who was so wafdfiwa/ mi (A mouse
Mrdly 0Wéd '30 Show m: if!) of his whiskers for gear 0-? $65.";
MW awe. We cod" seas/146d to be; eveO/whem a'É M re

Witt/1 W5 chm-s a" a'ea37/ {éf

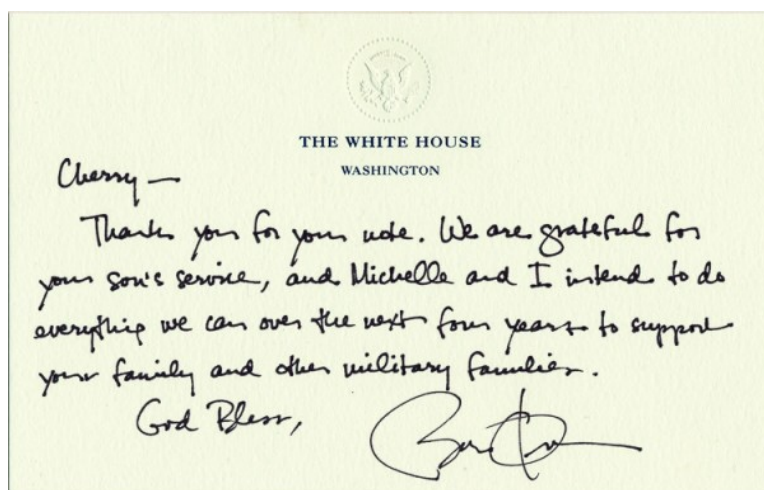
(A Fawn (<9 .
```

Text output in English. (hand\_cat\_output.txt)

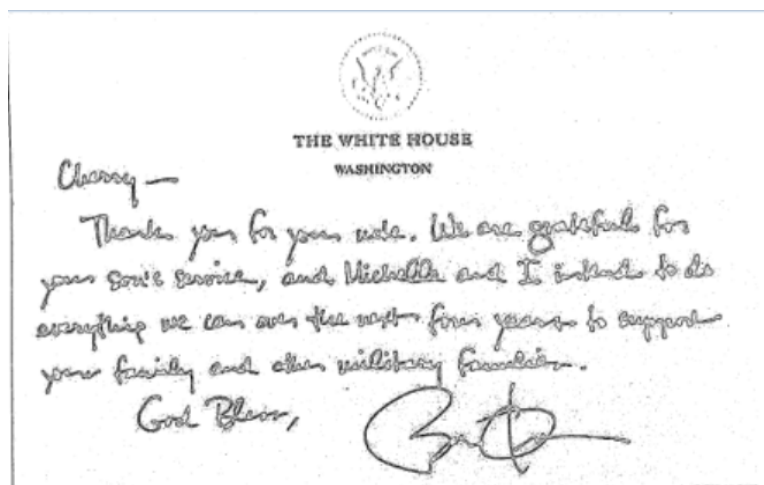
### 3. Image 3: obama2.png

```
Jiwons-MBP:code Jiwon$ python driver.py data/obama2.png es ko hi ja
===== Welcome to James' text recognition and translation software! =====
Total of 2 words detected.
Output successfully written in original language.
Output successfully written in Spanish.
Output successfully written in Korean.
Output successfully written in Hindi.
Output successfully written in Japanese.
Unfortunately, I don't think there's enough evidence to conclude that this
is a JHU document...
===== Good Bye! =====
```

Command line argument and standard out.



Original input image obama2.png, unprocessed.



Processed input image obama2\_thresh.png.

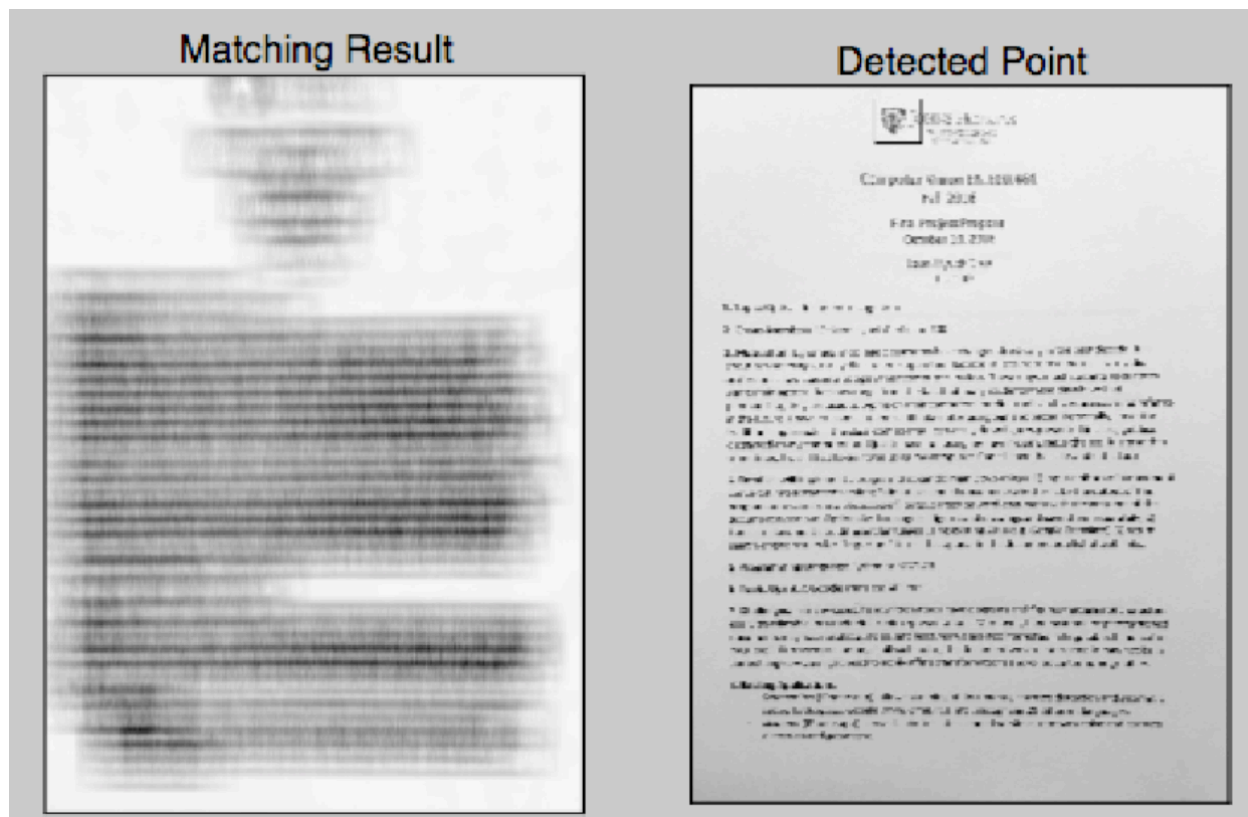
```
THE-FWWE WQUSEI
'Tzfi'fñlélfgfimw
```

Text output in English. (obama2\_output.txt)

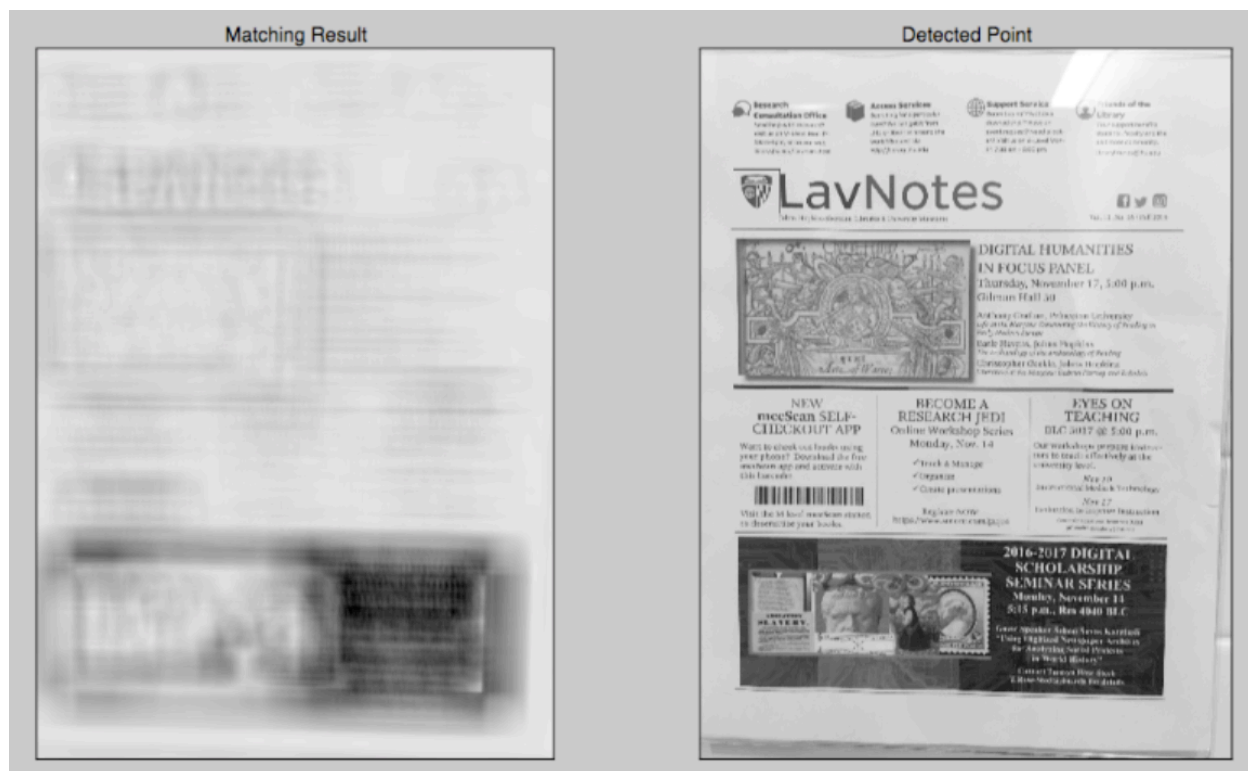


## Appendix B.

The following are additional template match outputs referred to in the report.



Template match using cv\_jchoi\_proposal.png as input and jhu\_logo5.png as template.



Template match using lav\_notes1.png as input and jhu\_logo5.png as template.