

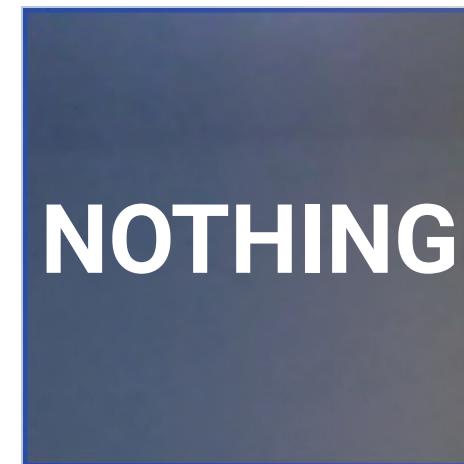
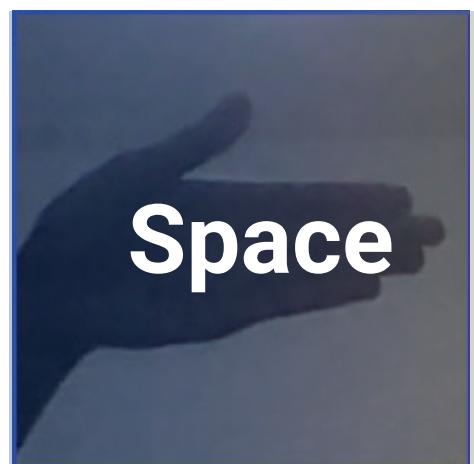
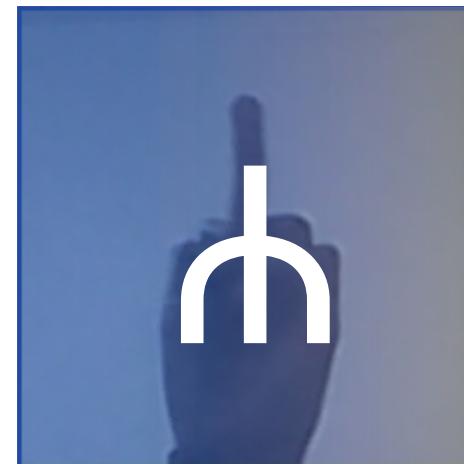


Ethiopian Sign Language

## PROGRESS REPORT 3

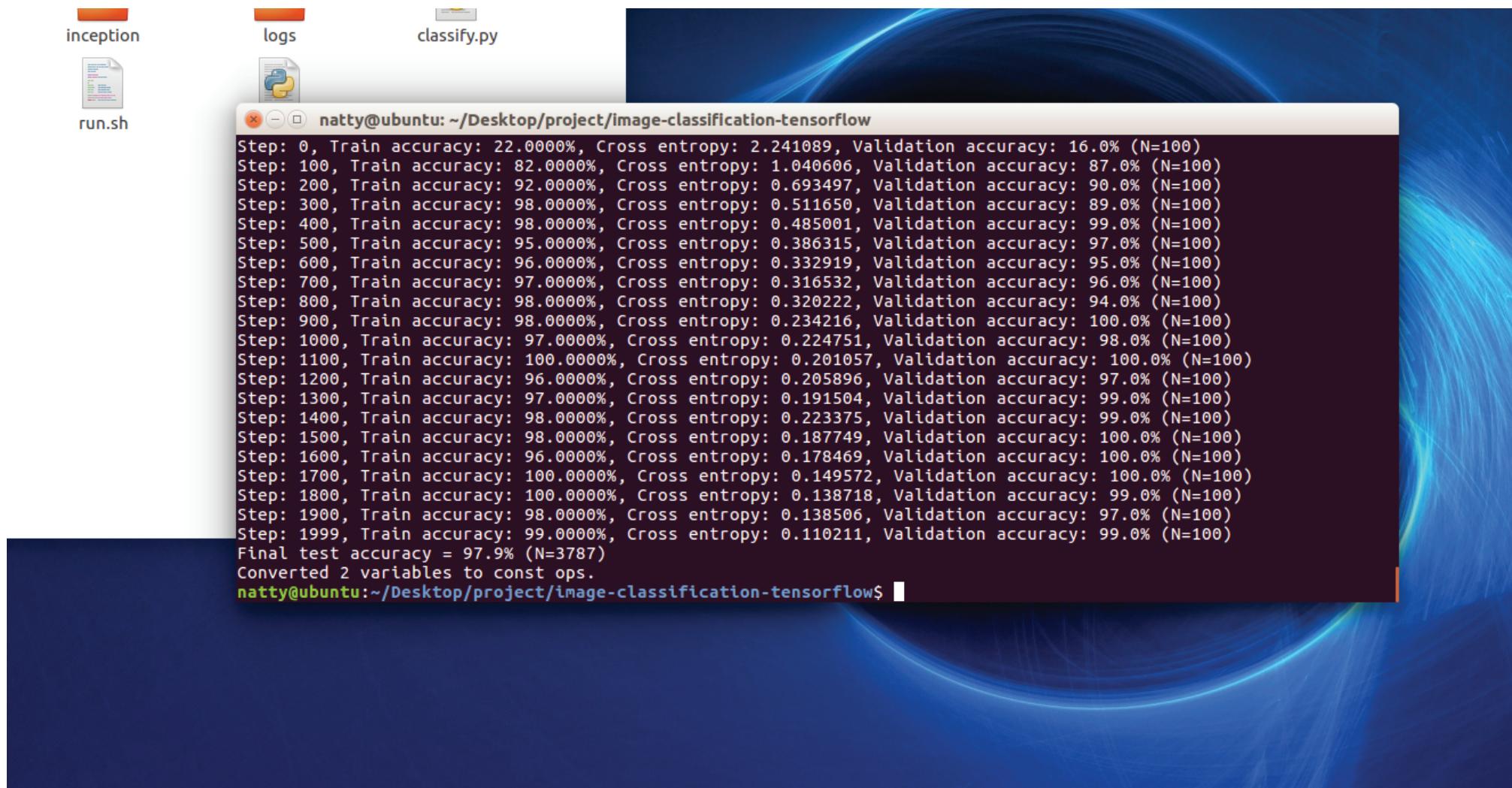
# DATA COLLECTION

New Data Set  
5000 Each



# TRAINING

97% Train Accuracy



The image shows a Linux desktop environment with a terminal window open. The terminal window title is "natty@ubuntu: ~/Desktop/project/image-classification-tensorflow". The window displays a log of training steps, showing increasing train accuracy and validation accuracy over time, reaching 97.9% final test accuracy. The desktop background is a blue abstract design.

```
inception logs classify.py
run.sh

natty@ubuntu:~/Desktop/project/image-classification-tensorflow
Step: 0, Train accuracy: 22.0000%, Cross entropy: 2.241089, Validation accuracy: 16.0% (N=100)
Step: 100, Train accuracy: 82.0000%, Cross entropy: 1.040606, Validation accuracy: 87.0% (N=100)
Step: 200, Train accuracy: 92.0000%, Cross entropy: 0.693497, Validation accuracy: 90.0% (N=100)
Step: 300, Train accuracy: 98.0000%, Cross entropy: 0.511650, Validation accuracy: 89.0% (N=100)
Step: 400, Train accuracy: 98.0000%, Cross entropy: 0.485001, Validation accuracy: 99.0% (N=100)
Step: 500, Train accuracy: 95.0000%, Cross entropy: 0.386315, Validation accuracy: 97.0% (N=100)
Step: 600, Train accuracy: 96.0000%, Cross entropy: 0.332919, Validation accuracy: 95.0% (N=100)
Step: 700, Train accuracy: 97.0000%, Cross entropy: 0.316532, Validation accuracy: 96.0% (N=100)
Step: 800, Train accuracy: 98.0000%, Cross entropy: 0.320222, Validation accuracy: 94.0% (N=100)
Step: 900, Train accuracy: 98.0000%, Cross entropy: 0.234216, Validation accuracy: 100.0% (N=100)
Step: 1000, Train accuracy: 97.0000%, Cross entropy: 0.224751, Validation accuracy: 98.0% (N=100)
Step: 1100, Train accuracy: 100.0000%, Cross entropy: 0.201057, Validation accuracy: 100.0% (N=100)
Step: 1200, Train accuracy: 96.0000%, Cross entropy: 0.205896, Validation accuracy: 97.0% (N=100)
Step: 1300, Train accuracy: 97.0000%, Cross entropy: 0.191504, Validation accuracy: 99.0% (N=100)
Step: 1400, Train accuracy: 98.0000%, Cross entropy: 0.223375, Validation accuracy: 99.0% (N=100)
Step: 1500, Train accuracy: 98.0000%, Cross entropy: 0.187749, Validation accuracy: 100.0% (N=100)
Step: 1600, Train accuracy: 96.0000%, Cross entropy: 0.178469, Validation accuracy: 100.0% (N=100)
Step: 1700, Train accuracy: 100.0000%, Cross entropy: 0.149572, Validation accuracy: 100.0% (N=100)
Step: 1800, Train accuracy: 100.0000%, Cross entropy: 0.138718, Validation accuracy: 99.0% (N=100)
Step: 1900, Train accuracy: 98.0000%, Cross entropy: 0.138506, Validation accuracy: 97.0% (N=100)
Step: 1999, Train accuracy: 99.0000%, Cross entropy: 0.110211, Validation accuracy: 99.0% (N=100)
Final test accuracy = 97.9% (N=3787)
Converted 2 variables to const ops.
natty@ubuntu:~/Desktop/project/image-classification-tensorflow$
```

# DESKTOP APPLICATION

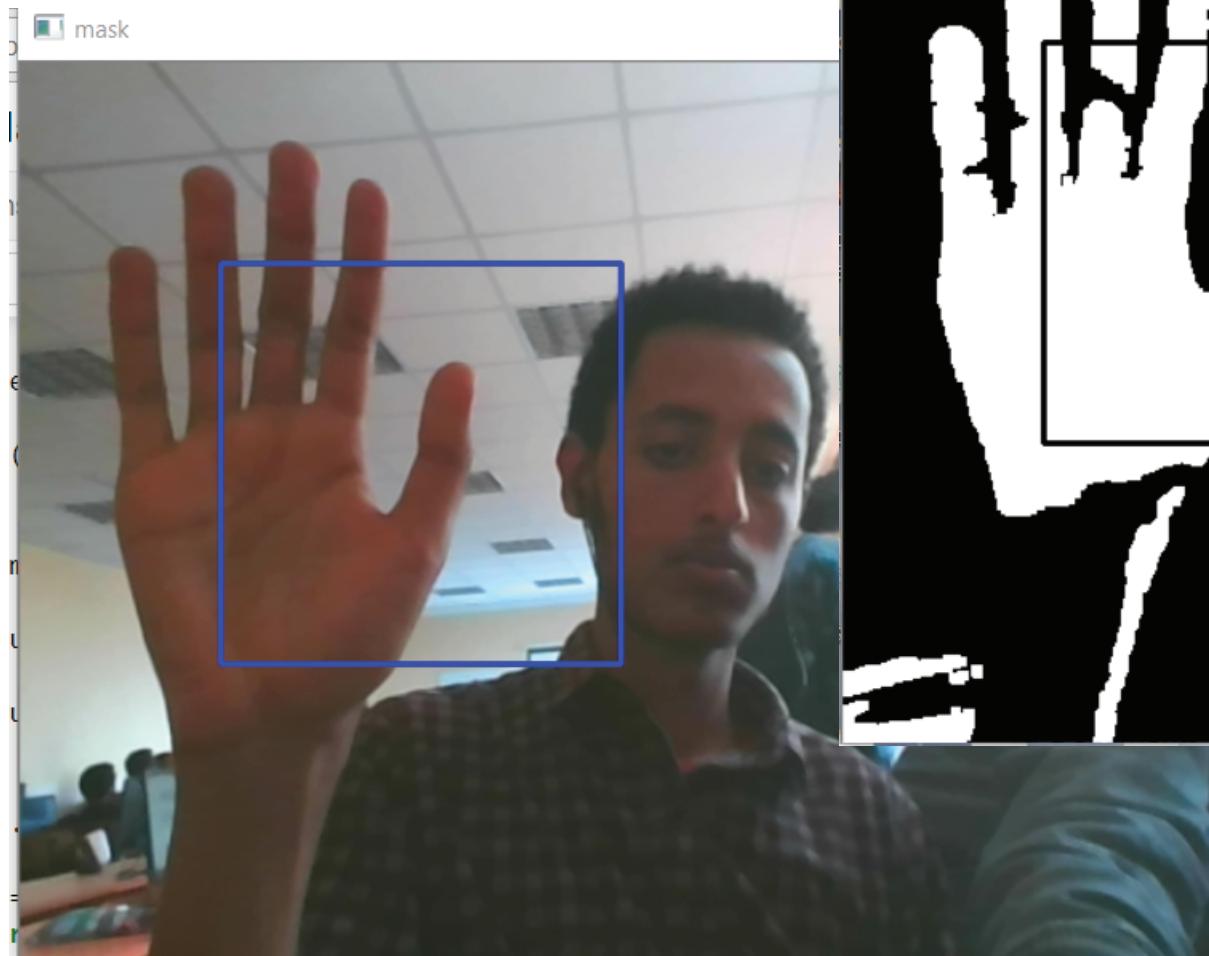


Eth **SL** + 

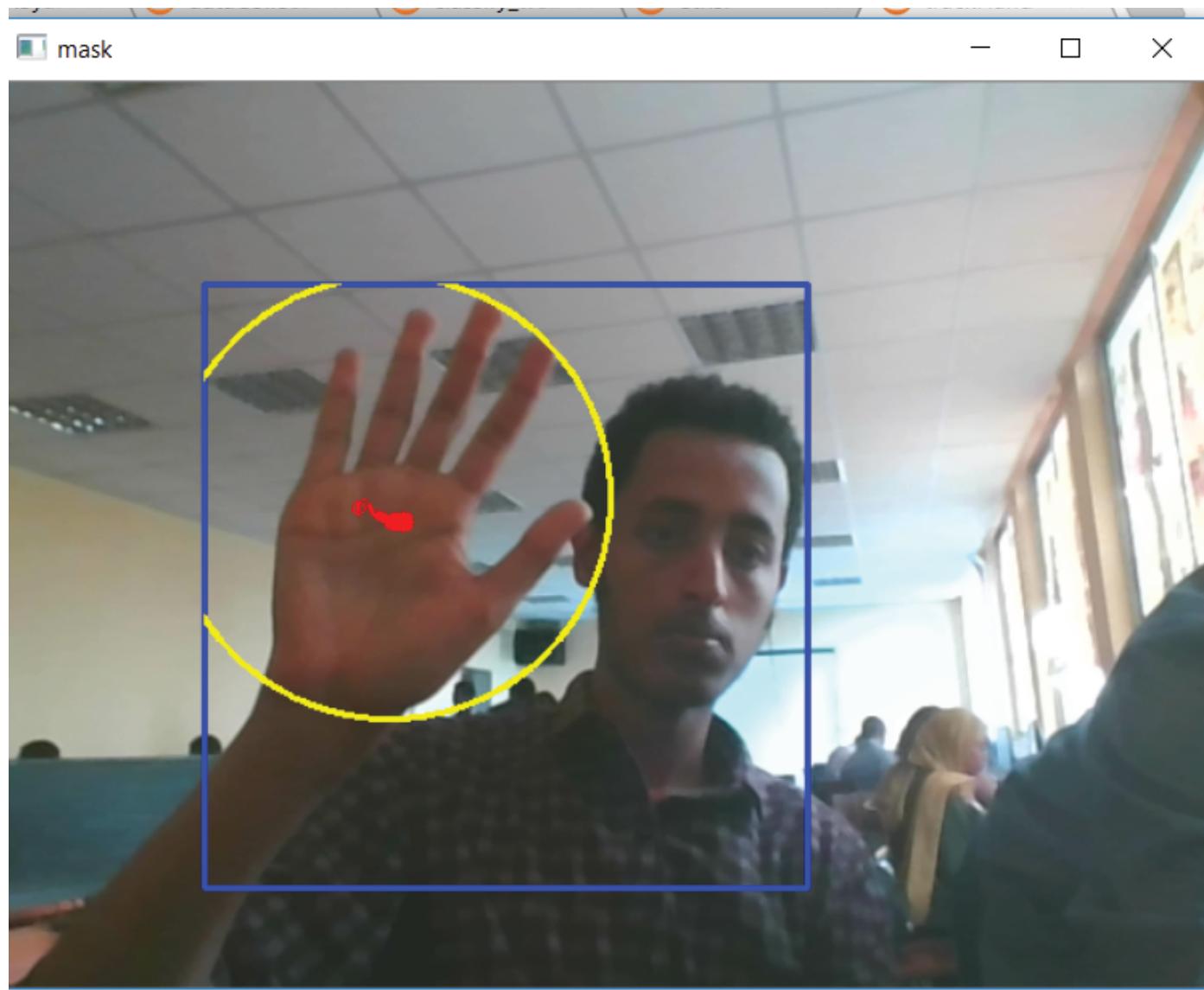
The text "Eth SL" is written in a blue, handwritten-style font. To its right is a plus sign (+). To the right of the plus sign is the Qt logo, which consists of the letters "Qt" in white on a green rounded square background.

# HAND TRACKING

HSV



# Feature Extraction



## PLAINED IMPROVEMENTS

Better User Experiiance

Improved Accuracy of the Model

Better Hand Segmentation Method

# THANK YOU