Egocentric Height Estimation

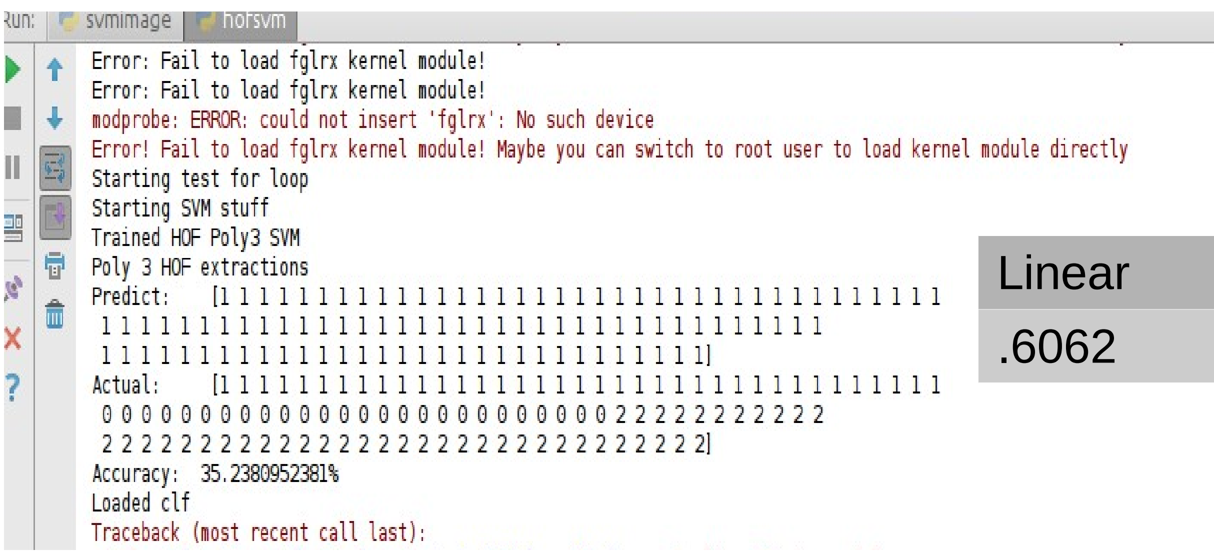
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Weekly Update 6/28-7/1

Edge Boundary Histograms

- Trained SVM on EBH
- 1x320 vector per image
- Both linear and polynomial kernels predicted all the same answer

Training SVM on HOF

- Trained SVM on Histograms of Oriented Optical Flow
- Harder to write the training labels



```
Run: svmimage hofsvm
Error: Fail to load fglrx kernel module!
Error: Fail to load fglrx kernel module!
modprobe: ERROR: could not insert 'fglrx': No such device
Error! Fail to load fglrx kernel module! Maybe you can switch to root user to load kernel module directly
Starting test for loop
Starting SVM stuff
Trained HOF Poly3 SVM
Poly 3 HOF extractions
Predict:   [1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
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 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1]
Actual:    [1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 2 2 2 2 2 2 2 2 2 2 2
 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2]
Accuracy:  35.2380952381%
Loaded clf
Traceback (most recent call last):
```

Linear	Polynomial
.6062	.3524

Optical-Flow based CNN

- Using sparse OF based CNN from Poleg, Arora, and Peleg

	Actual	Sigmoid Median normalization	Tanh median	Sigmoid mean	**Sigmoid fit (0,1)**	Sigmoid mean + exp / e
Chest	121	154.62	249.24	**146.22**	150.92	208.86
Waist	99	**129.59**	145.26	142.82	134.83	150.54
Head	166	144.69	247.96	148.05	**164.09**	219.81

Two-stream CNN

- Based on paper by Karen Simonyan and Andrew Zisserman
- Take pre-trained Alexnet and make it regression-based
- Take their temporal-based CNN → regression-based
- Two ways of yielding results
  - Train SVM on concatenated results
  - Average results