# Assignment 3

623.915 (20S) Content Search with Deep Learning

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#### Dataset

• Three videos with approx. 10 minutes in total per class

- Similar resolutions
  - Downloaded with 360p
  - Small differences due to aspect ratio
- Uniformly sampled every second to ensure similar number of keyframes
- 90% used as training data per class

### Results

Around 50% accuracy (depending on actual training set distribution)

Sample output:

```
Calculated histograms for 615 frames in ./sports-1m/bmx/
Finished 24.6493%

Calculated histograms for 633 frames in ./sports-1m/marathon/
Finished 50.02%

Calculated histograms for 709 frames in ./sports-1m/parachuting/
Finished 78.4369%

Calculated histograms for 538 frames in ./sports-1m/skateboarding/
Finished 100%

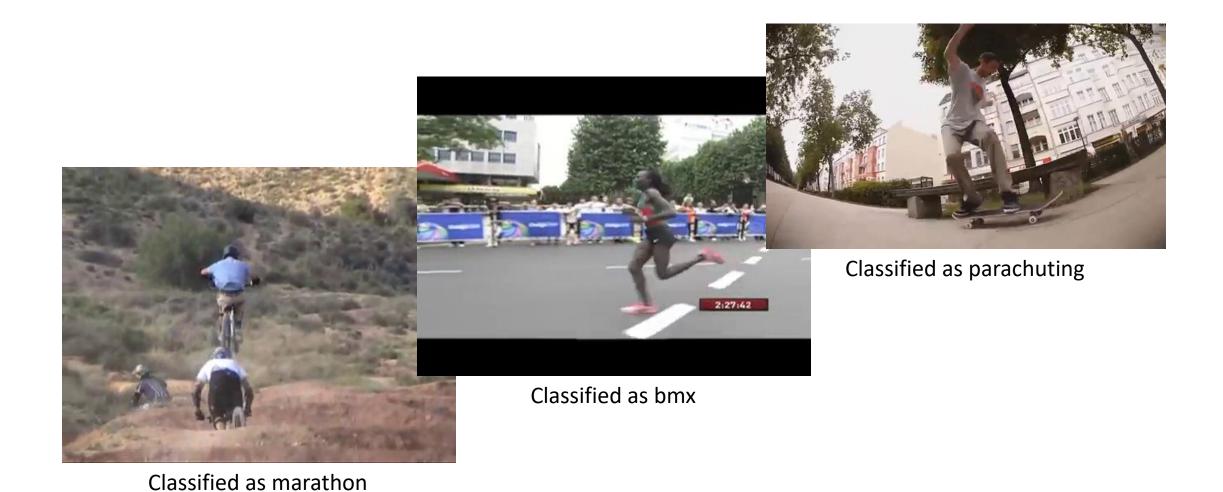
SVM setup and training finished in 0.147694 seconds for 2244 elements

Correct: 124 from 247 (0.502024)
```

## **Correctly Classified Results**



### **Incorrectly** Classified Results



### Conclusions

- Fast training but only moderate results
- Suboptimal training and test data
  - Raw keyframes uniformly sampled
  - No black intro removal, duplicates removal, normalization, ...
- Results improve for more detailed histograms
  - 47.37% for 64 bins
  - 53.44% for 256 bins
  - For same shuffling seed