WEEK 10
COUNTING IN DENSE CROWDS USING DEEP LEARNING

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LAST WEEK

- Field Trip to Harris
- Fixed Error with CNN Feature Extraction
- Improvement in Results
- Worked on Fisher Vectors

CURRENT PROGRESS

USING DIFFERENT PRE-TRAINED MODELS & LAYERS

- Imagenet-vgg-f
- Imagenet-caffe-alex
- Imagenet-vgg-verydeep-19 (Best Results)
- Imagenet-vgg-verydeep-16

- Relu6
- Fully Connected Layer 6 (Improved Results)
- Relu7
- Fully Connected Layer 7 (Improved Results)

IMPROVEMENT IN RESULTS

- Haroon's Method:

  Absolute Difference (AD): 324.42, Normalized AD (NAD): 30.91

Previously (only CNN Features)		
Layer	Absolute Difference	Normalized Difference
Convfc6	9692226.38	918900.69
Convfc7	3963692.19	695395.26

Currently (only CNN Features)		
Layer	Absolute Difference	Normalized Difference
Convfc6	308.93	25.29
Convfc7	321.77	26.75

IMPROVEMENT IN RESULTS (CONT.)

- Haroon's Method:

  Absolute Difference (AD): 324.42, Normalized AD (NAD): 30.91

Previously (only CNN Features with SIFT)		
Layer	Absolute Difference	Normalized Difference
Relu 6	297.55	27.53
Relu 7	294.96	27.63

Currently (only CNN Features with SIFT)		
Layer	Absolute Difference	Normalized Difference
Convfc6	281.48	23.86
Convfc7	286.54	24.59

FISHER VECTORS

- Reviewed Fisher Vector code with Haroon
- Results were not much improved
- Tweaked certain parameters again and generated new codebooks
- Presently running this code

FUTURE WORK

- Improve performance of counting algorithm
- Search for any errors in Fisher Vectors code