

Simplified Visual Bits – 7/16

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Progress

- Fixed bug
- Integrated libSVM into the system
- Finished preliminary simplified visual bits system that can distinguish between an airplane and non-airplane images
- Implemented GentleBoost

GentleBoost

- Generally does better than AdaBoost
- Handles outliers better

libSVM

- Used `easy.py` script in order to find parameters for the rbf kernel

Results

Algorithm	Descriptors	Weights	Rounds	Distribution	Training Images	Testing Images	Accuracy
AdaBoost	4446	4000	200	Uniform	1000	100	77%
GentleBoost	4446	4000	200	Uniform	1000	100	78%

- GentleBoost performed 1% better

Results

Algorithm	Descriptors	Weights	Rounds	Distribution	Training Images	Testing Images	Accuracy
GentleBoost	4446	5000	200	Uniform	1000	100	84%
GentleBoost	4446	10000	200	Uniform	1000	100	78%
GentleBoost	4446	15000	200	Uniform	1000	100	78%

- Using more weights made accuracy go down...

Plan

- Keep testing
 - ▣ Try more weights
 - ▣ Try more descriptors
 - ▣ Try more training images
 - ▣ Try different distribution of weights
- Call C++ code from matlab to make program faster