Detection of auto-rickshaw

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Autorickshaw detection is important in current scenario owing to Indian roads.

The task is segment the autorickshaw.

Method

1. Pre-process the dataset.
2. Extract positive and negative samples.
3. Train a Classifier.
4. Patch by patch predict on test data.
5. Use measure to evaluate.

Pre-process the dataset & Extract positive and negative samples

The negative and positive samples were extracted. A 64x64 feature using Histogram of Gradients was extracted.
For extracting positive samples (the complete patch of NxN was resized to 64x64) and extract HOG. Different features were tested were HOG provided best results.

For extracting negative samples; samples were the auto patch was present in ground truth was reduced to black. Then whole images were cut in patches (different form positive sample were it was resized) of 64x64.

Train a classifier

The best results were found with an Support Vector Machine with Radial Basis Function with Standardization.

Patch by patch predict on test data

A sliding window over various scales was run and each windows was then shrunk to 64x64. And if the auto-detected was of best threshold result were returned.

[1] cvit.iiit.ac.in/autorickshaw_detection