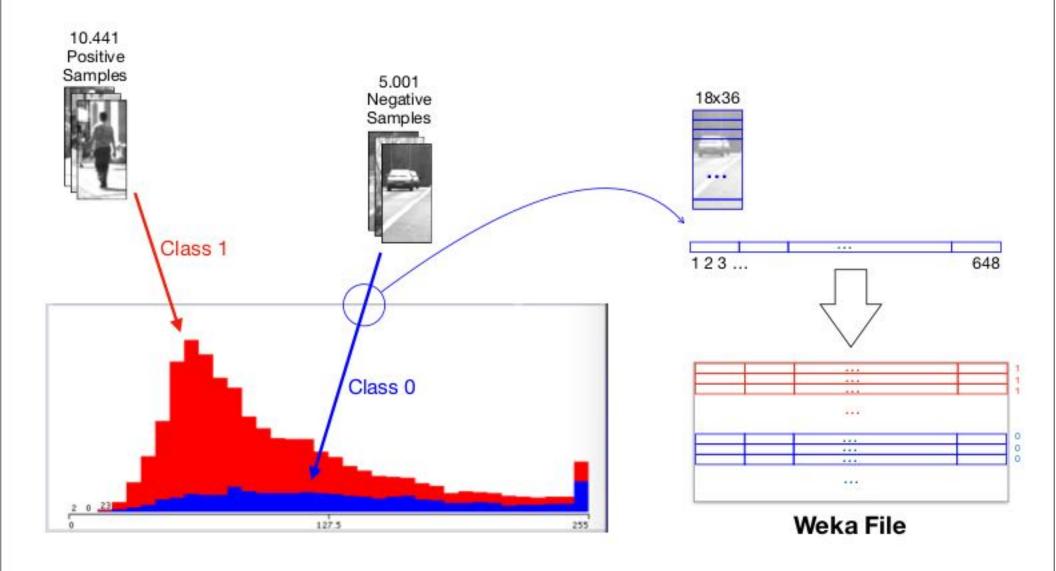
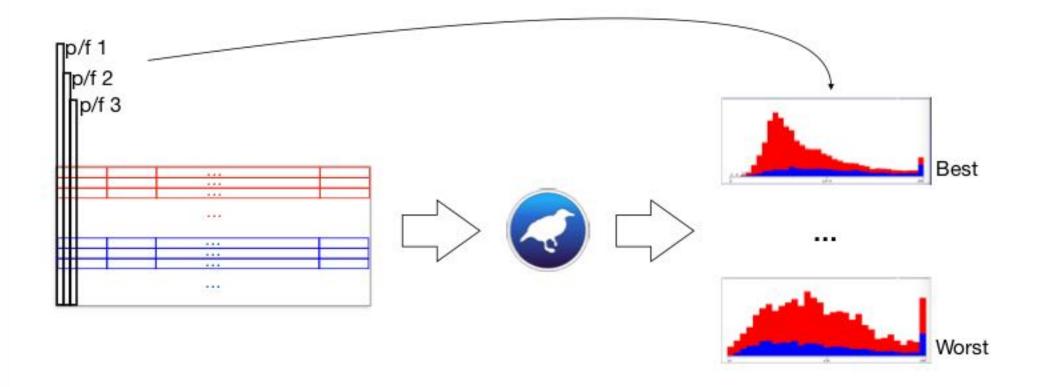
Pixels/Features Selection



Pixels/Features Selection



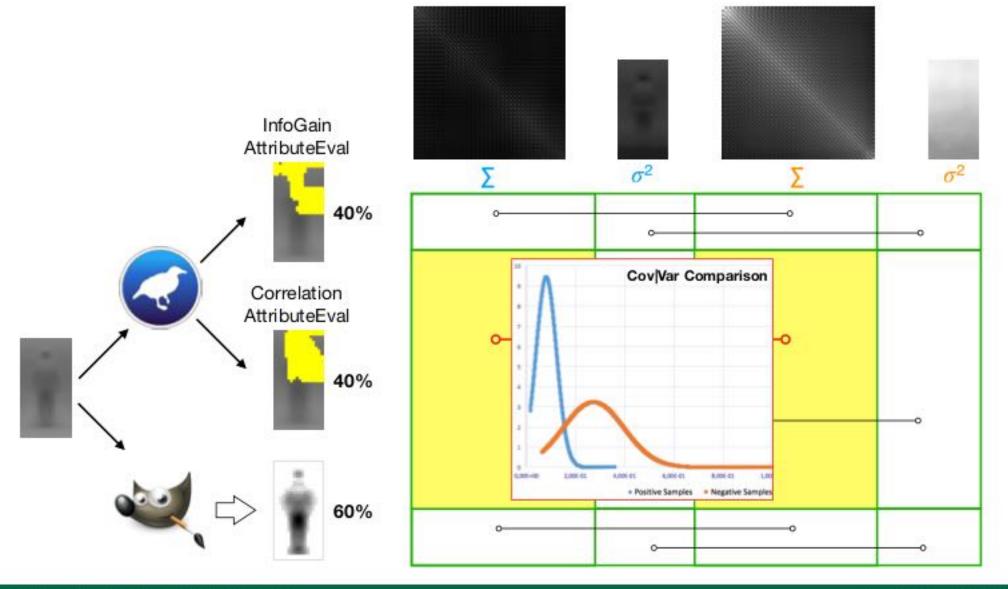
CorrelationAttributeEval: Evaluates the worth of an attribute by measuring the correlation (Pearson's) between it and the class

Nominal attributes are considered on a value by value basis by treating each value as an indicator. An overall correlation for a nominal attribute is arrived at via a weighted average.

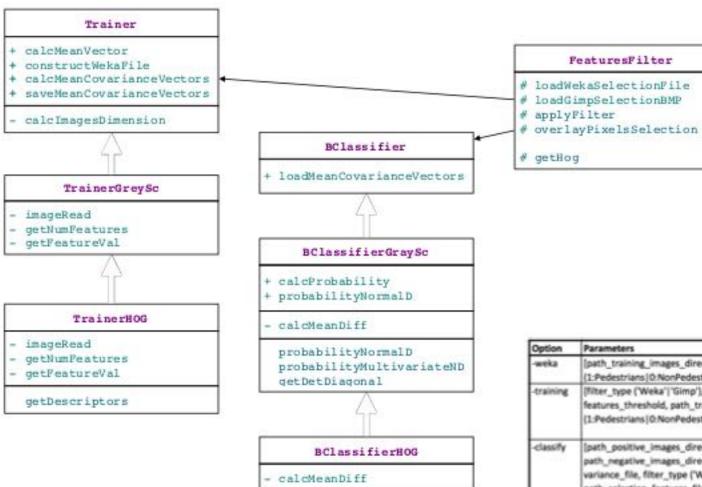
InfoGainAttributeEval: Evaluates the worth of an attribute by measuring the information gain with respect to the class

InfoGain(Class, Attribute) = H(Class) - H(Class | Attribute).

Pixels/Features Selection



Program Design



Option	Parameters	Description
-weka	[path_training_images_directory, class_id (1-Pedestrians [0:NonPedestrians), alias ('GraySc' 'HOG')]	Constructs an .arff file corresponding to the Class to be analyzed in Weka.
-training	[fliter_type ('Weka' 'Gimp'), path_selection_features_file, features_threshold, path_training_images_directory, class_id (1-Pedestrians 0-NonPedestrians), alias ('GraySc' 'HOG')]	Loads the Weka or Gimp selection file and calcs the Mean and Covariance matrices, to save finally these in BMP an XML formats.
-classify	[path_positive_images_directory, path_negative_images_directory, path_mean_file, path_co- variance_file, filter_type ("Weka' 'Gimp'), path_selection_features_file, discriminator_threshold, size_group_samples, alias ('GraySc' 'HOG'), gaussian_type ("Multi' 'Mono')]	Creates the Transition Matrix testing the Classifier with sets of given group size images.
-discrimins	[path_positive_images_directory, path_negative_images_directory, path_mean_file, path_co- variance_file, filter_type ('Weka' 'Gimp'), path_selection_features_file, alias ('GraySc' 'HOG'), gaussian_type ('Multi' 'Mono')	Calcs all the Discriminators from to the images given in the samples directory.

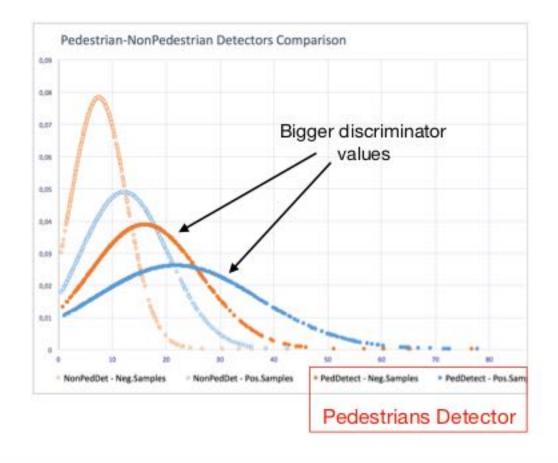
Image Processing and Pattern Recognition

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Test and Results

$$p(\mathbf{x}) = \frac{1}{(2\pi)^{d/2} |\mathbf{\Sigma}|^{1/2}} \exp \left[-\frac{1}{2} (\mathbf{x} - \mu)^t \mathbf{\Sigma}^{-1} (\mathbf{x} - \mu) \right]$$
Discriminator

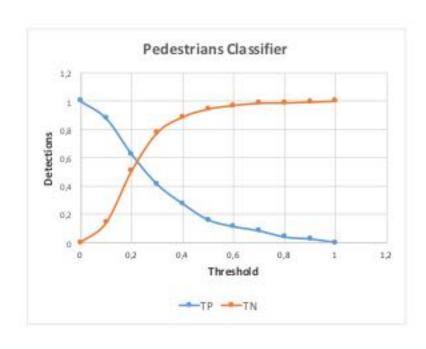


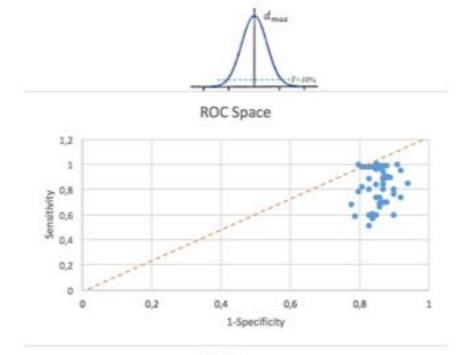


Test and Results

Grey Scale Values







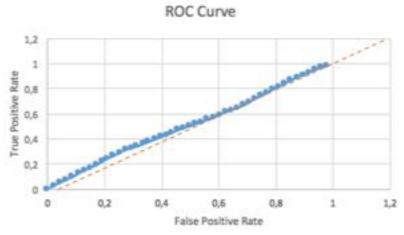


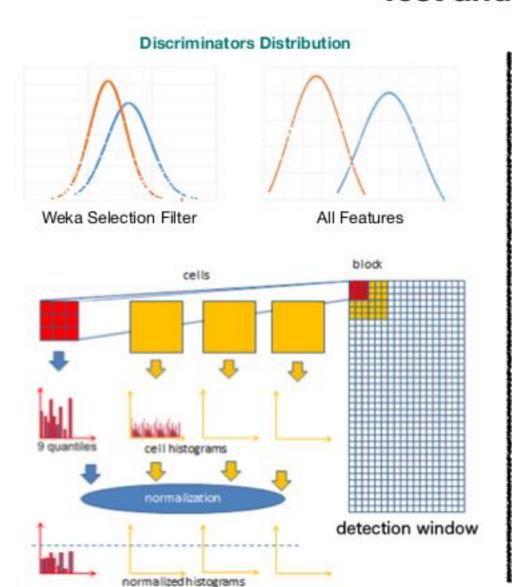
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HOG Features



