Introduction to Support Vector Machines

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Compatibility	OpenCV >= 3.0

Goal

In this tutorial you will learn how to:

- Use the OpenCV functions **cv::ml::SVM::train** to build a classifier based on SVMs and **cv::ml::SVM::predict** to test its performance.

What is a SVM?

A Support Vector Machine (SVM) is a discriminative classifier formally defined by a separating hyperplane. In other words, given labeled training data (*supervised learning*), the algorithm outputs an optimal hyperplane which categorizes new examples.

In which sense is the hyperplane obtained optimal? Let's consider the following simple problem:

For a linearly separable set of 2D-points which belong to one of two classes, find a separating straight line.