

# Introduction to Support Vector Machines

Prev Tutorial: [Barcode Recognition](#)

Next Tutorial: [Support Vector Machines for Non-Linearly Separable Data](#)

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Compatibility	OpenCV >= 3.0

## Goal

In this tutorial you will learn how to:

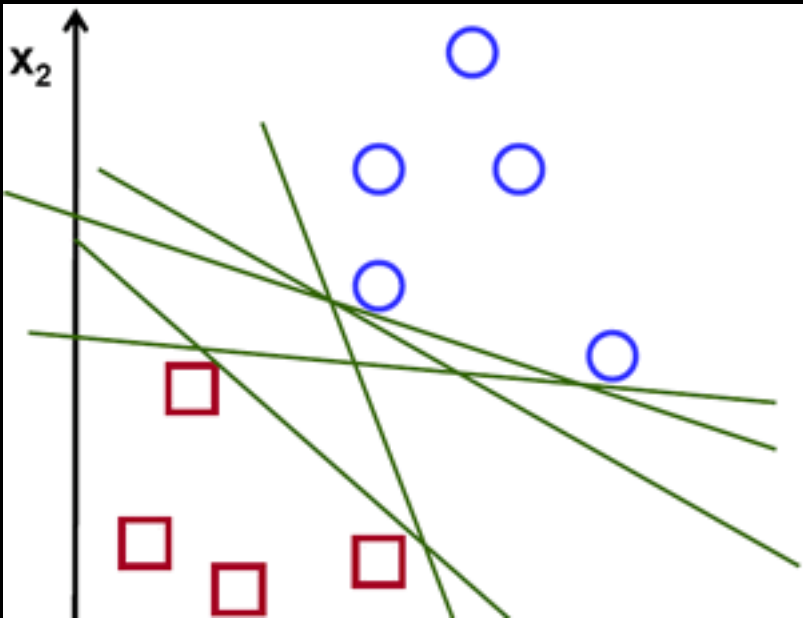
- Use the OpenCV functions `cv::ml::SVM::train` to build a classifier based on SVMs and `cv::ml::SVM::predict` to test its performance.

## 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.



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