2. What linear function is used by a SVM for classification? How is an input vector $\mathbf{x_i}$ (instance) assigned to the positive or negative class?

3. If the training examples are linearly separable, how many decision boundaries can separate positive from negative data points? Which decision boundary does the SVM algorithm calculate? Why?

13. Consider the three linearly separable two-dimensional input vectors in the following figure. Find the linear SVM that optimally separates the classes by maximizing the margin.