**CS 498 AMO Homework 2**

**Page 1 (15 points)**

A screenshot of your best accuracy on the test set (retrieve this from the autograder).

**Page 2 (20 points)**

A plot of the validation accuracy every 30 steps, for each value of the regularization constant. You should plot the curves for all regularization constants in the same plot using different colors with a **label showing the corresponding values**.

**Page 3 (20 points)**

A plot of the magnitude of the coefficient vector every 30 steps, for each value of the regularization constant. You should plot the curves for all regularization constants in the same plot using different colors with a **label showing the corresponding values**.

**Page 4 (25 points)**

Your estimate of the best value of the regularization constant, together with a brief description of why you believe that is a good value. What was your choice for the learning rate and why did you choose it?

**Page 5 (20 points)**

The page should contain snippets of code demonstrating:

* SVM training with (stochastic) gradient descent updating
* Label prediction
* Calculation of the accuracies

**Page 6+**

All code should be attached at the end of the pdf.  There is no limit to the number of pages required for full code printout.