CV (Spring 2021)

Name:

Project 06. Combining HOG and SVM

**This project is worth 200 points.**

**Goal:** Your goal in this project is to create an SVM (called SVC when used as multi-category Classifier) image classifier based on the HOG features. You will:

1. Use a dataset of your choice.
   1. Classify at least 4 different categories.
2. Use the HOG as your feature vector.
3. You can submit either a notebook or a python program.

A complete example with detailed explanation can be found at:

[**https://kapernikov.com/tutorial-image-classification-with-scikit-learn/**](https://kapernikov.com/tutorial-image-classification-with-scikit-learn/)

You are welcome to use the dataset used in that tutorial. They have a link for a zipped file. You can also adjust the code, making sure to understand it.

As you create the notebook, you need to adjust the path for your images; there were some wrong on incomplete imports. That showed up as I was running the cells.

**Remove all things not related to the SVC.**

**You must add a section to input an image, show the image and show its classification.**

**Grading and Submission Guide:**

* Must submit the whole project (python folder with code, image dataset, and results) zipped using 7zip tools with the name: LastName\_FirstName\_Project-06.
  + No need for a report. Just a .py or .ipynb should do along with the dataset used.
* This is an **individual** project: The work should represent your own: that you acknowledge that have not incorporated into this project any unacknowledged material from the work of another person, including papers, words, ideas, information, computer code, data, evidence-organizing principles, or style of presentation taken from the Internet, books, periodicals, or other sources.