

# Homework #3

CS 539, Summer 2024

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100 points total [10% of your final grade]

**Due:** July 2, 2024 by 11:59pm

**Delivery:** Submit via Canvas

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In this assignment, you will implement logistic regression with **stochastic** gradient descent in python3. In stochastic gradient descent, you are supposed to update theta (i.e.,  $w$  and  $b$ ) by a training example.

In this problem, you will implement the logistic regression algorithm. We provide the following files:

- a) `part1.py` - You will implement several functions. Do not change the input and the output of the functions.
  - b) `test1.py` - This file includes unit tests. Run this file by typing '`nosetests -v test1.py`' in the terminal. No modification is required.
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**What to turn in:**

- Submit to Canvas your `part1.py`.
- This is an individual assignment, but you may discuss general strategies and approaches with other members of the class (refer to the syllabus for details of the homework collaboration policy).