

CIS 419/519: Homework 2

{Yupeng Li}

Although the solutions are entirely my own, I consulted with the following people and sources while working on this homework: {http://www.cs.utep.edu/vladik/cs5315.13/cs5315_13kader.pdf}

1 Gradient Descent

Let k be a counter for the iterations of gradient descent, and let α_k be the learning rate for the k^{th} step of gradient descent.

a.) In one sentence, what are the implications of using a constant value for α_k in gradient descent?

Because constant α_k ensures that you move the same amount each time along the parameter space.

b.) In another sentence, what are the implications for setting α_k as a function of k ?

2 Linear Regression