

CMSE381 - Quiz 1

I will adhere to the Spartan Code of Honor in completing this assignment.

Signed: _____ Print Name: _____

1. What is your preferred name (nickname, etc)?

2. What is the difference between prediction and inference?

prediction focuses on the outcomes

Inference focuses on the model and relationship between input X and output Y

3. If you know the joint distribution of X and Y , what is the best function to predict Y given $X = x$ in term of mean square error?

$$f(x) = E(Y | X=x)$$

4. For two KNN prediction models ($k = 100$ and $k = 2$), which one will have large bias? Which one will have large variance?

$K=100 \rightarrow$ large bias and small variance

$K=2 \rightarrow$ small bias and large variance.