

COM S 474 Homework 2

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Problem 1

The augmented feature vector is $x = [1.1, 2.2, 3.3, 1]^T$

Problem 2

The class of the sample is +1

Problem 3

Start with the regular loss function $\mathbf{J}(\mathbf{W})$, then multiply y_i^2 which will always have a value of 1 regardless of the class label

$$J(\mathbf{W}) = \sum_{i=1}^N (\mathbf{W}^T \mathbf{x}_i'' - 1)^2$$

Problem 4

The equation for the new loss function is $\mathbf{W} = (X'' X''^T)^{-1} X''$

Problem 5

Redacted