Machine Learning

HW 3 - Gradient-Based Learning
Spring 2025

1. For the function $J = (x_1 w_1 - 5x_2 w_2 - 2)^2$, where $w = [w_1, w_2]$ are our weights to learn:

   (a) What are the partial gradients, $\frac{\partial J}{\partial w_1}$ and $\frac{\partial J}{\partial w_2}$? Show work to support your answer (6pts).

   (b) What are the values of the partial gradients, given current values of $w = [0, 0]$, $x = [1, 1]$ (4pts)?