

Pattern Recognition and Machine Learning:

Homework 12

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Problem 1

Give expression for t and y :

$$t = w(wu_1 + u_2) + u_3$$
$$y = w(w(wu_1 + u_2) + u_3)$$

Compute $\frac{dy}{dw}$ and $\frac{\partial y}{\partial p}$:

$$\frac{dy}{dw} = 3w^2u_1 + 2wu_2 + u_3$$
$$\frac{\partial y}{\partial p} = w^3$$