

Problem Set 2 – Supervised Learning

DS 542 – DL4DS

Fall 2024

Problem 2.1

To walk “downhill” on the loss function (equation 2.5), we measure its gradient with respect to the parameters ϕ_0 and ϕ_1 . Calculate expressions for the slopes $\partial L/\partial\phi_0$ and $\partial L/\partial\phi_1$.

Problem 2.2

Show that we can find the minimum of the loss function in closed-form by setting the expression for the derivatives from problem 2.1 to zero and solving for ϕ_0 and ϕ_1 .