

EPISTEMOLOGY AND THEORY OF MACHINE LEARNING
EXERCISE SET #2

This week's exercises are the following from chapter 3 of the textbook.

- (1) Exercise 1 (p. 50)
- (2) Exercise 2 (pp. 50–51).
- (3) Exercise 6 (p. 51).

Additionally,

- (4) Show that the original definition of true risk for binary classification,

$$L_{\mathcal{D}}(h) := \mathcal{D}(\{(x, y) : h(x) \neq y\}),$$

is equivalent to the expectation

$$\mathbb{E}_{(x,y) \sim \mathcal{D}} [\ell_{0/1}(h, (x, y))].$$