

Exercise 2

Two data sets were generated using a linear relationship given by

$$d_i = m_1 x_i + 80 m_2 + n_i$$

where m_1 and m_2 are model parameters and n is a random noise sample drawn from a normal distribution with varying variances for the three datasets.

- (i) Find the least squares estimate of the model parameters using L2 norm.
- (ii) Find uncertainty in m_1 and m_2

Data set:

data_exer1_10.txt 10% noise

data_exer1_30.txt 30% noise

The data have been written in two-column format with x in the first column and d in the second column.