

Tutorial_03_Tasks

August 10, 2018

1 QBUS6850 - Machine Learning for Business

Semester 2, 2018

2 Tutorial 3 - Linear Regression 1

2.1 Question

- Generate synthetic data from a 2nd order polynomial (quadratic)
 $f = 4 + 1.5x + 3.2x^2$
- Add noise to the linear model
 $y = f + \epsilon$
- Produce a scatter plot y against x , add the true values f to the plot.
- Fit a linear model to the data, using the normal equation: $\beta = (X^T X)^{-1} X^T Y$ to estimate β_0 and β_1 .
- Fit a quadratic regression model to the data, using normal equation to estimate parameters.