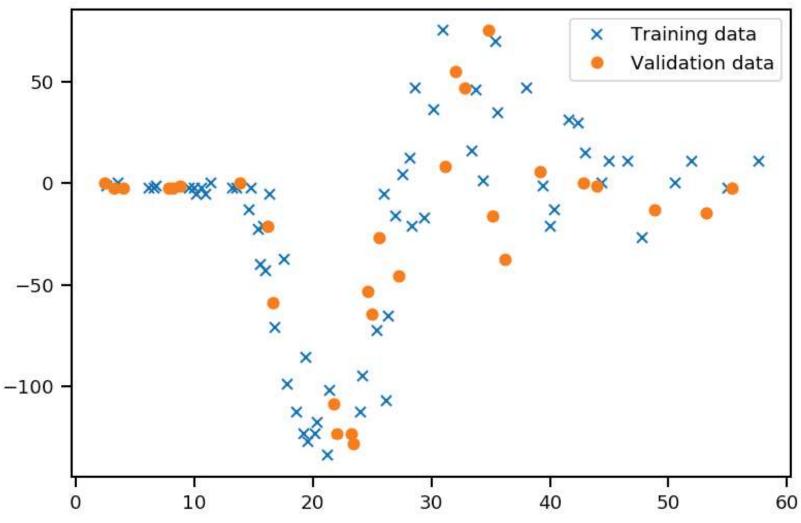
Lecture 13: Linear Regression via Least Squares

Professor Ilias Bilionis

Measures of predictive accuracy



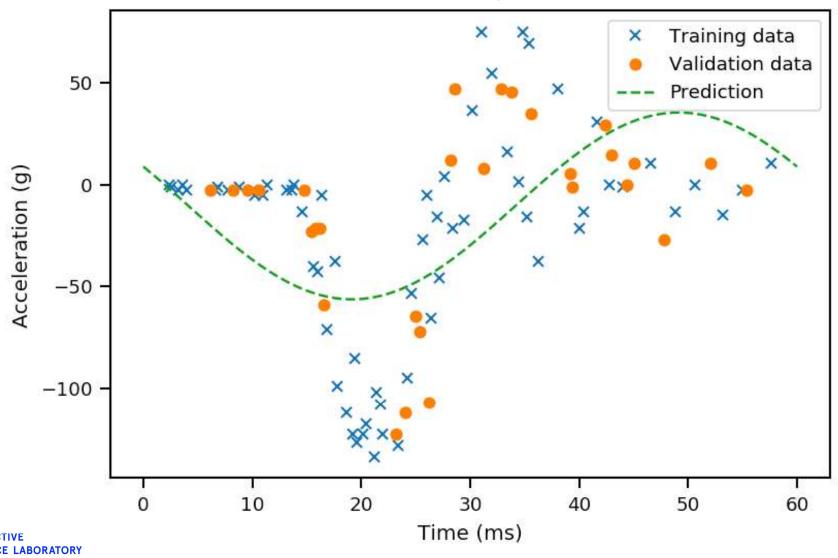
Validation points





Fit a generalized model with a Fourier basis

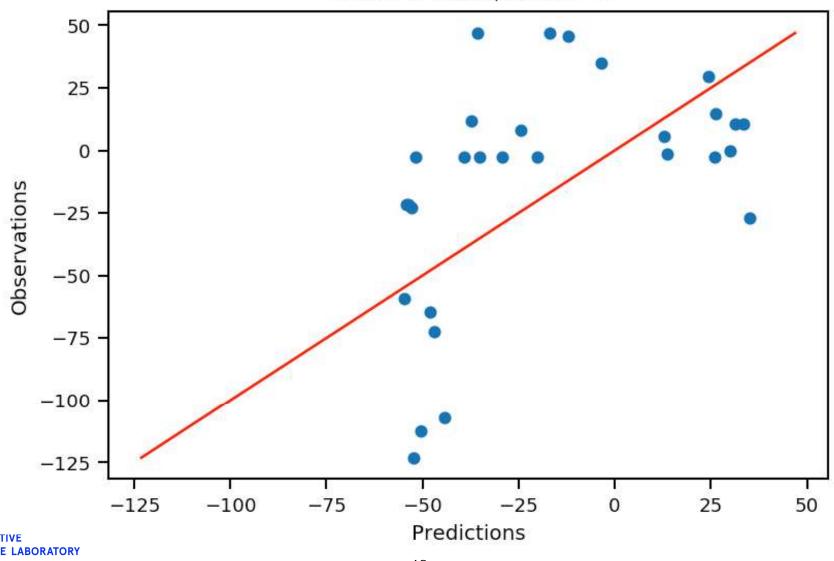
Fourier L=60.00, terms = 2





Predictions vs Observations Plot

Fourier L=60.00, terms = 2





Mean Square Error

$$y_{1}, \dots, y_{n}$$

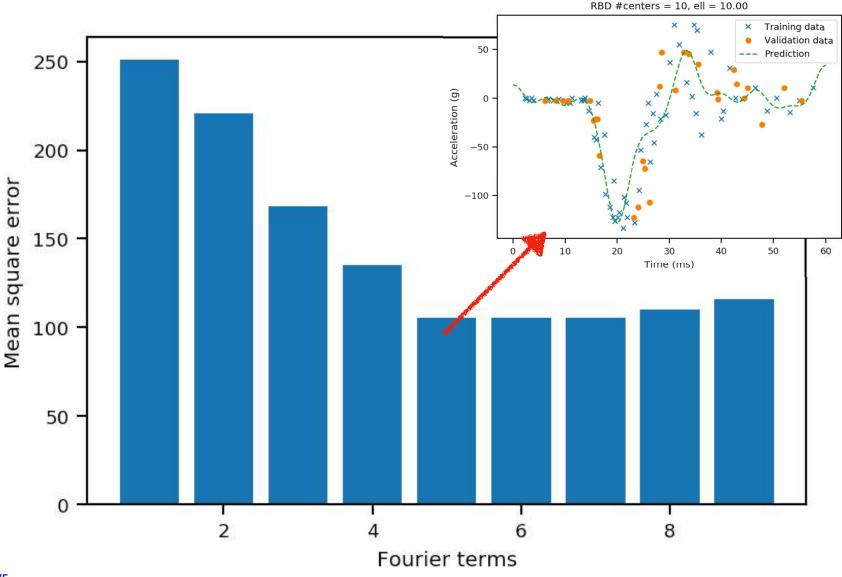
$$y_{1}, \dots, y_{n}$$

$$y_{1}, \dots, y_{n}$$

$$MSE = \frac{1}{n} \sum_{i=1}^{n} (y_{i}^{v} - y_{i}^{p})^{2}$$



Mean Square Error





Cross validation

