



# UNIVERSITEIT VAN AMSTERDAM

KANSREKENING EN STATISTIEK

---

## LAB-5

---

*Authors:*

Abe WIER SMA

12 mei 2015

## 7 Exercise (Non-linear regression)

$$J(\theta) = J(\theta_1, \theta_2) = \sum_{i=1}^n (y_i - \theta_1 * \sin(\theta_2 * x_i))^2$$

$$J_{J(\theta)} = \begin{bmatrix} \frac{\partial}{\partial \theta_1} & \frac{\partial}{\partial \theta_2} \end{bmatrix}$$

$$= \begin{bmatrix} 2 * \sin(x * \theta_2) * (\theta_1 * \sin(x * \theta_2) - y) & 2 * x * \theta_1 * \cos(x * \theta_2) * (\theta_1 * \sin(x * \theta_2) - y) \end{bmatrix}$$

### 4.2 LabExercise: k-NNb classifier

### 4.3 LabExercise: Minimum Error Classification I

### 4.4 LabExercise: Minimum Error Classification II