

Exercise 2

Exercise 2.1 - Visualization Pipeline

Data acquisition Gather GeoData, Traffic data from server

Filtering Extract streets, streetsize/length, traffic per street, points of interest, from the data

Mapping Map these extracted data values to visual variables: streets to edges, Points of interest (U-Bahn etc.) to glyphs, traffic per street to color (green for little, orange for large amount of traffic)

Rendering Bring these visual variables to the screen in a view

Interaction The user can interact with Filtering (choose usual traffic at specific time), Mapping (Show glyphs for U-bahn), and Rendering (Zoom, Pan...):

Exercise 2.2 - Data Representation

1. Celsius temperature of a thin heated rod.

- Data domain dimensionality: 1D
- Attribute dimensionality: 0D
- Attribute scale type: interval

2. Positions of stars in the Milky Way galaxy.

- Data domain dimensionality: 3D
- Attribute dimensionality: 0D
- Attribute scale type: ratio

3. Weather condition map (rain, snow, sunny. . .) of Europe.

- Data domain dimensionality: 2D
- Attribute dimensionality: 1D
- Attribute scale type: nominal

4. Air flow around a car.

- Data domain dimensionality: 3D
- Attribute dimensionality: 3D
- Attribute scale type: ratio

5. Amount of traffic on the roads of Stuttgart.

- Data domain dimensionality: 2D
- Attribute dimensionality: 1D
- Attribute scale type: ordinal

6. Current time at every point on Earth.

- Data domain dimensionality: 2D
- Attribute dimensionality: 1D
- Attribute scale type: interval

Exercise 2.3 - Data Properties

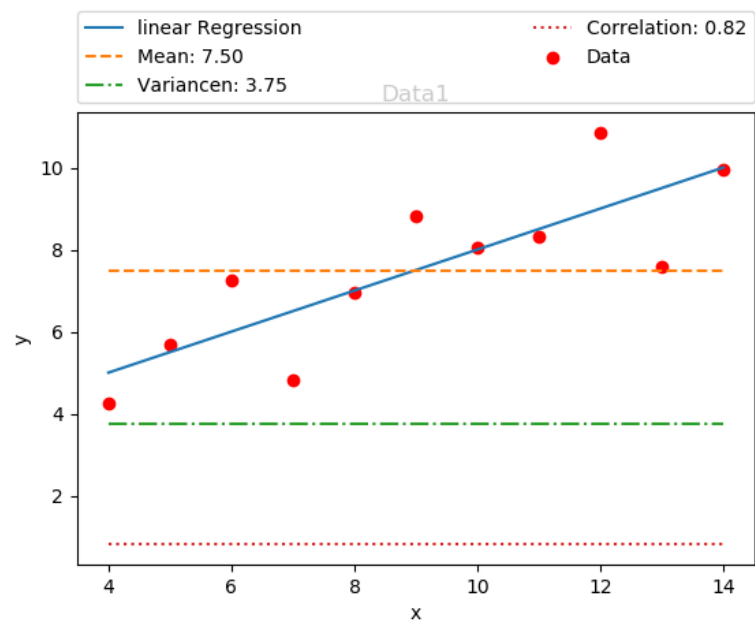


Abbildung 1: Data1

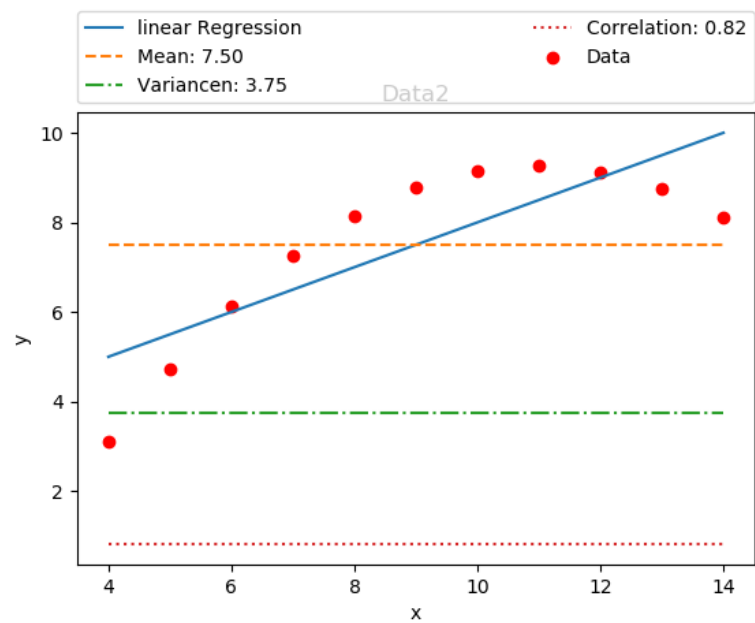


Abbildung 2: Data2

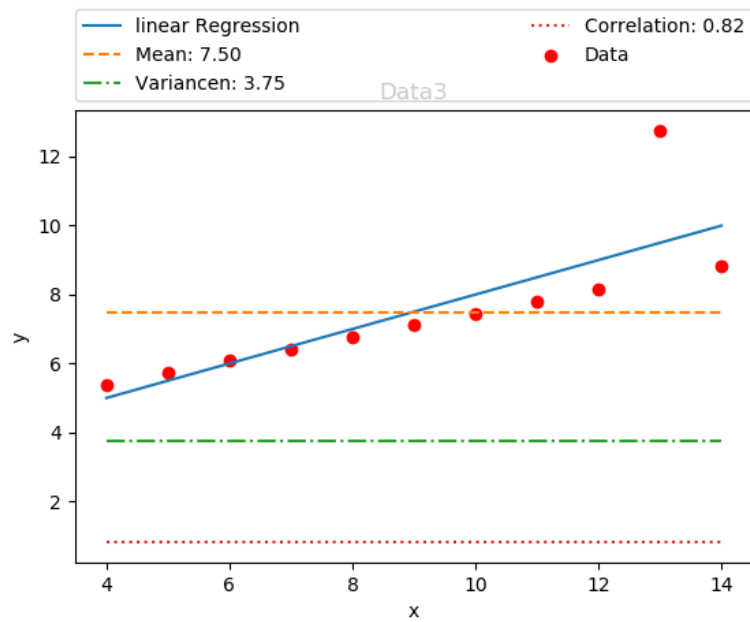


Abbildung 3: Data3

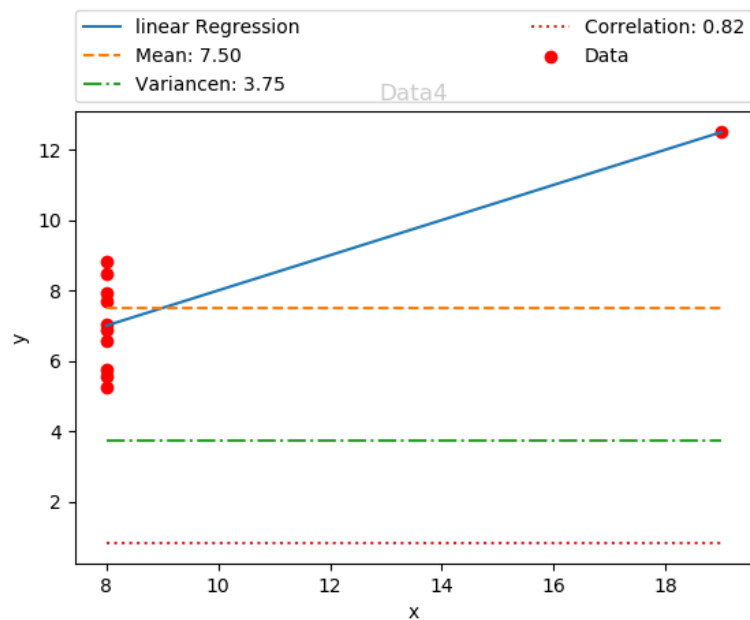


Abbildung 4: Data4