

## Overview

- With regression we study the relationship between a **response variable**  $Y$  and a **feature**  $X$
- $Y$  also called *dependent* variable
- $X$  also called *independent* variable, *predictor* variable or *covariate*
- The relationship can be summarized with the **regression function**:

$$r(x) = E(Y|X = x) = \int yf(y|x)dy$$

- The goal is to estimate  $r(x)$  from a random sample of the form:

$$(X_1, Y_1), (X_2, Y_2), \dots, (X_n, Y_n) \sim F_{X,Y}$$

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## Types of Regression

- [[Lineare Regression]]
- [[Multiple Regression]]

## [[Diagnostische Aspekte]]