



భారతీయ సాంకేతిక విజ్ఞాన సంస్థ హైదరాబాద్
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Indian Institute of Technology Hyderabad

Biostatistics

BT2023

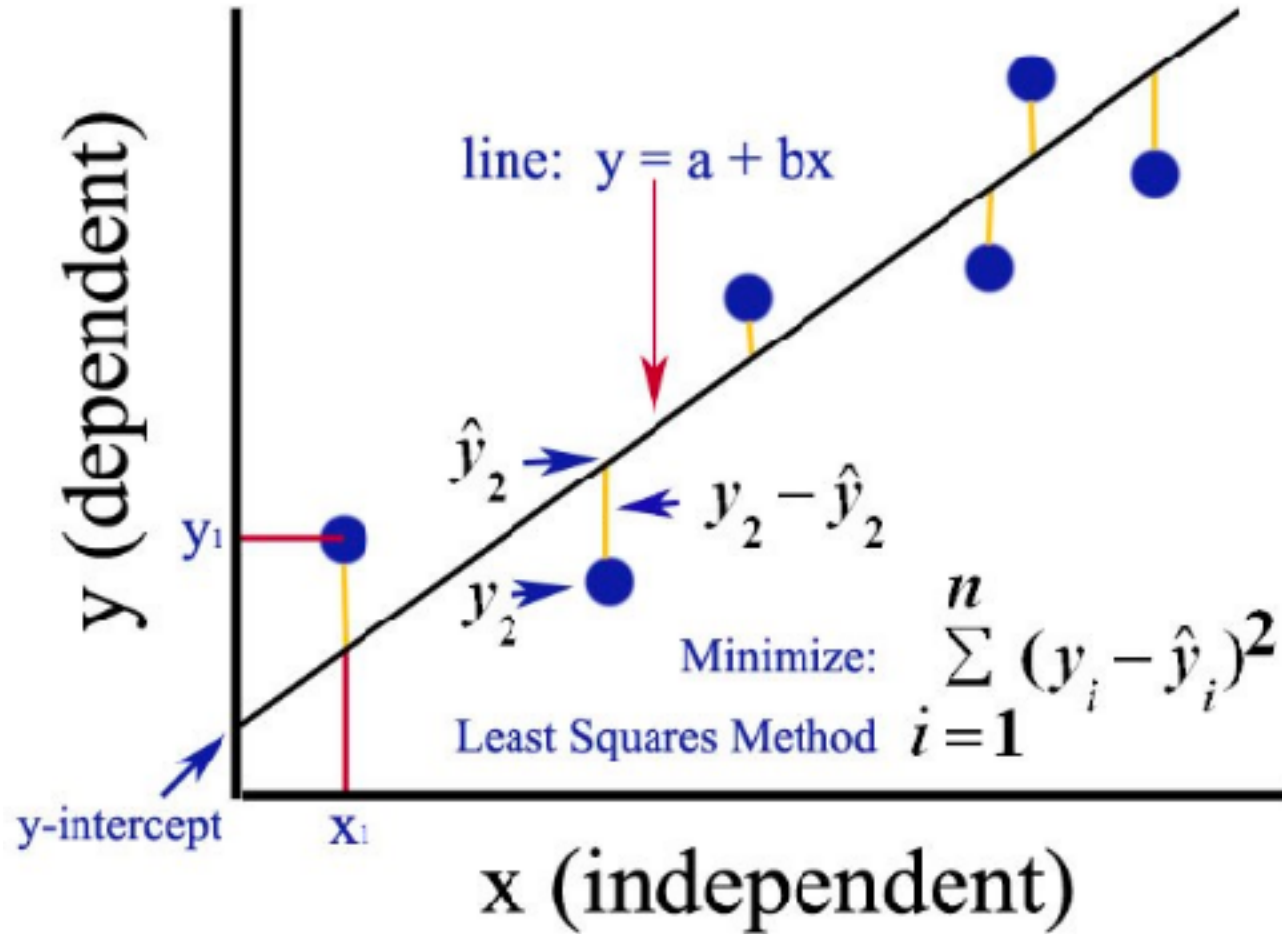
Lecture 24

Interpolation and extrapolation

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Linear regression



$$y = ax + b$$

$$b_{yx} = \frac{n \sum xy - \sum x \sum y}{n \sum x^2 - (\sum x)^2}$$

$$a_{yx} = \frac{\bar{y} - b_{yx}}{\bar{x}}$$

$$b_{yx} = \frac{\sigma_{xy}}{\sigma_x^2}$$
$$= \rho \frac{\sigma_y}{\sigma_x}$$

Interpolation

- Polynomial interpolation (not used if you have ~ more than 3 points)
- Piecewise linear interpolation
- Spline interpolation



Polynomial of degree n

