

# Multivariate regression

## Questions and answers - granular

Miguel Rodo

### Questions and answers

- Typical notation for simple regression model with one predictor and one response?
  - $Y = \beta_0 + \beta_1 X + \epsilon$
- Example of multiple regression?
  - Modeling house price
    - \* Against?
      - Number of rooms, size of garden, distance to city center, etc.
- Typical notation for multiple regression model?
  - Two options:
    - \* First?
      - $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_p X_p + \epsilon$
    - \* Second?
      - $Y = \mathbf{X}'\boldsymbol{\beta} + \epsilon$
- Typical notation for multivariate regression model?
  - $\mathbf{Y} = \mathbf{XB} + \mathbf{E}$ 
    - \* Where Y, B and E have?
      - $r$  columns
- Example of multivariate regression?
  - Modeling rainfall and wind speed
    - \* Against?
      - Hurricane category, altitude and distance from coast