

# 1. Objectives

## Multivariate Linear Regression

At the end of this lecture, you will be able to

- Write down the **multivariate linear regression model** .
- Compute the **distribution of the least square estimator (LSE)** for linear regression with **deterministic design** .
- Know that in the setting of deterministic design, the least square estimator is the maximum likelihood estimator.
- Compute the **quadratic risk** and **prediction error** of the LSE.
- Perform **hypothesis test** for linear regression models.
- Design **Bonferroni's tests** for testing multiple hypotheses.

## Discussion

**Topic:** Unit 6 Linear Regression:Lecture 20: Linear Regression 2 / 1. Objectives

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