Homework 1

DATA130021 Financial Econometrics

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Problem 1: Introduction

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Major: Data Science

Basic Courses:

2019-2020	2020-2021
Computational Statistics	Statistics(II): Regression Analysis
Introduction to Artificial Intelligence	Financial Econometrics
Advanced Linear Algebra	Computer Vision
Data Visualization	
Large Scale Distributed System	
Data Mining in Finance and Economics	
Neural Network and Deep Learning	
Biostatistics	
Introduction to Stochastic Processes	

Website: Github

Problem 2: Formula

Following are example LaTeX codes:

1. $$ax^2 + bx + c = 0.$$

2. $$\frac{y_t}{x_t^2 + z_0}.$$

3. $$\boldsymbol{Y} = \boldsymbol{X}\boldsymbol{\beta} + \boldsymbol{\epsilon}.$$

4. $$\hat{\boldsymbol{\beta}} = (\boldsymbol{X}^\top \boldsymbol{X})^{-1} \boldsymbol{X}^\top \boldsymbol{Y}.$$

5. $$\log\left(\prod_{i=1}^{n}(1 + r_i)\right) = \sum_{i=1}^{n} \log(1 + r_i) \approx \sum_{i=1}^{n} r_i.$$