

Climate Risk Hedging

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Chapter 1

From Text to Data

Text as Data

1.1 Some Linear Algebra

1.2 Representing Text as Data

Explaining tf-idf:

$$tf_{i,j} - idf_j = \frac{c_{i,j}}{n_i} \times \log\left(\frac{n}{d_j}\right) \quad (1.1)$$

1.3 Statistical Method

Explaining cosine similarity

1.4 Climate Attention Time Series

Explain the various indexes

Chapter 2

Factor Signal

2.1 Regression

2.2 Simple Factor Mimicking Portfolio

Simple example to mimick a factor with portfolios.

2.3 Climate Factor Signal

Explain why we are doing:

$$r_{i,t} = \hat{\beta}_i CC_t + \gamma_i^T Factors_t + \hat{\epsilon}_{i,t} \quad (2.1)$$

Chapter 3

Efficient Portfolio

3.1 Portfolio Optimization

3.2 Efficient Mimicking Portfolio

Chapter 4

Estimation of the Covariance Matrix

4.1 Covariance Matrix Estimation

4.2 Shrinkage Estimation

