Case Studies - Forecasting Bitcoin: Data Presentation

Elchin **Babayev**
Mert **Basaran**
Alkim Can **Celik**
Halil Anil **Demirbas**
Deniz **Uygur**

Technische Universität Dortmund

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Introduction

- Project Context: Forecasting the quarterly growh rate of the Bitcoin.
- Potential Drivers: US unemployment rate, the US inflation rate, the federal funds rate and the growth rate of the S&P 500
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Data

Data Recruitment

Historical Bitcoin Data

- *Investing.com*
- One of the top three global financial websites in the world.

Other Drivers

- *FRED-QD*
- It is a large macroeconomic database designed for the empirical analysis of "big data."

Data

Dataset Properties

Historical Bitcoin Data

- *.csv* format
- Starts from Q3 2010
- Runs daily, over 4650 data points and counting
- 7 columns in total namely: *Date, Price, Open, High, Low, Volume, Change %*

Other Drivers

- *.csv* format
- Starts from Q1 1959
- Runs *quarterly*, over 200 individual columns

Data

Data Operations

Historical Bitcoin Data

- Added a column called *change*, according to the growth rate formula
- Fixed the *volume* column which had *K*, *M*, *B* corresponding to thousand, million and billion.
- Changed the time index to be readible by R.
- Daily data has been aggregated to be quarterly data using averages over the given period.

Other Drivers

- In total of 8 columns have been used, namely *UNRATE','CPIAUCSL', 'CPILFESL', 'FEDFUNDS', 'S.P.500', 'S.P..indust', 'S.P.div.yield'*
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Column	
UNRATE	Civilian Unemployme
CPIAUCSL	Consumer Price Index for All Urban Cor
CPILFESL	Consumer Price Index for All Urban Consumers: All Items

Interesting Fact

This is important.

Cautionary Tale

This is really important!