

Visual Analytics—Time Varying Data

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Slides based off Tableau Learn (<https://www.tableau.com/learn/articles/time-series-analysis>)

Homework Note

- Please submit only the required deliverables on Gradescope (no binary files and no data files)
- Please assume the data folder I give you with the assignment is saved in the same directory as your scripts, and set them up to run as such

Homework 2

- How is it going?
- Questions?

Another Note!

- Class on Thursday will be held in the Spatial Analysis Lab (SAL) in Sabin-Reed 104
- We'll have a guest lecture all about (geo)spatial data analysis

Plan for Today

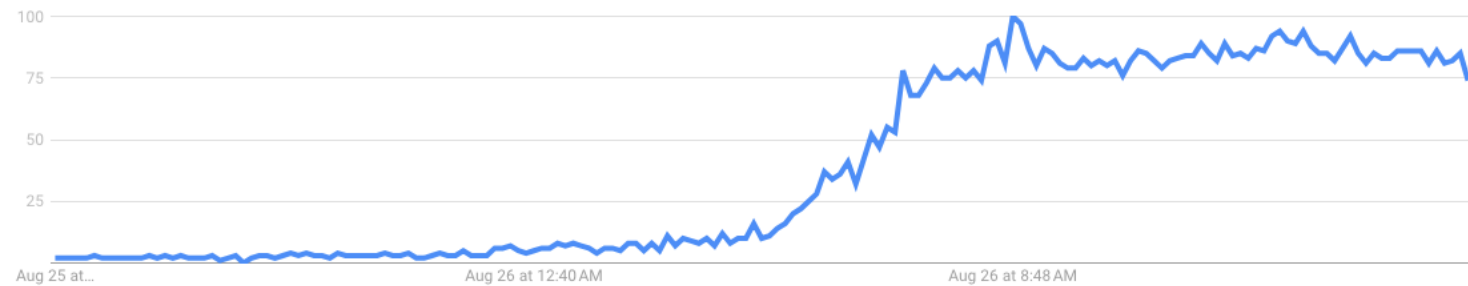
- What is time varying data?
- Practice

Time Varying Data

Time	national dog day: (United States)	
2024-08-25T16:32:00-04:00	2	
2024-08-25T16:40:00-04:00	2	
2024-08-25T16:48:00-04:00	2	
2024-08-25T16:56:00-04:00	2	
2024-08-25T17:04:00-04:00	2	
2024-08-25T17:12:00-04:00	3	
2024-08-25T17:20:00-04:00	2	
2024-08-25T17:28:00-04:00	2	
2024-08-25T17:36:00-04:00	2	
2024-08-25T17:44:00-04:00	2	
2024-08-25T17:52:00-04:00	2	
2024-08-25T18:00:00-04:00	2	
2024-08-25T18:08:00-04:00	3	
2024-08-25T18:16:00-04:00	2	

Are these variables
dependent or independent?

Interest over time ?



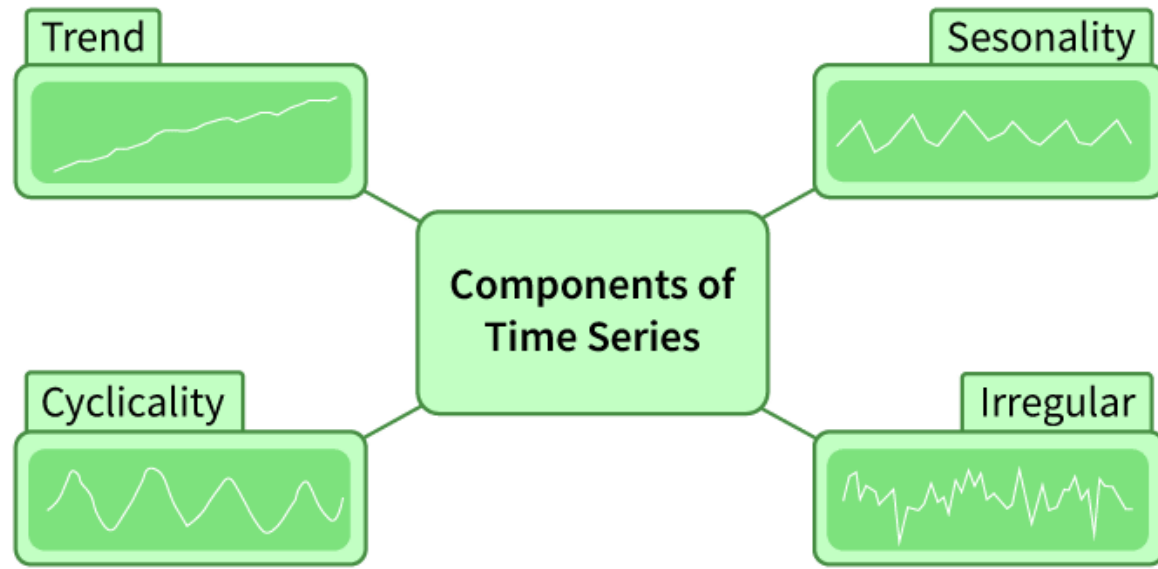
Time Varying Data

What examples of time-varying data can you think of?

Time Series Analysis

- Specific way of analyzing a sequence of data points collected over an interval of time
- Time series data is collected at specific, consistent time intervals
- Allows us to see how variables change over time
- Datasets are typically very large
- Data can be unruly
- Can be used for predictions (time series forecasting)

Time Series Analysis



Time Series - Data, Analysis, Forecasting and Libraries



- Extra resources
 - <https://www.itl.nist.gov/div898/handbook/pmc/section4/pmc4.htm> (analytic techniques)
 - <https://www.geeksforgeeks.org/time-series-analysis-and-forecasting/> (visualization examples)

Lab

- Find instructions for today's lab on the course website