

Today: Time Series

Sam Ventura

36-315

Today: Longitudinal Data and Time Series Analysis

Department of Statistics
Carnegie Mellon University

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Happy Halloween!

OThot Info Session

When: Tuesday, November 1

Where: Baker Hall 235A

Time: 5:00 - 6:30

Food: Yes

They hire all class levels!

Hierarchical Clustering

As we will see on the upcoming lab and HW, we can project the data into lower-dim space and visualize the results. Why might this be a bad idea?

Another option: Use **hierarchical linkage clustering**.

Single linkage: the distance between two groups is the shortest possible distance between two points, one from each group

Complete linkage: the distance between two groups is the largest possible distance between two points, one from each group

Dendrograms

Longitudinal Data and Time Series

Examples:

Time Series: Measuring a single variable over points in time

Can be regularly or irregularly spaced time intervals:

Can have more than one variable:

Analyzing and Comparing Time Series

What are we interested in seeing with time series?

What if we have multiple time series? How to compare?

Moving Average Plots

Moving Average: Want to visualize how the trend changes over time.

Can downweight older observations in your moving window:

Lags and Autocorrelation

Lags: Does one time point influence future time point(s)?

Autocorrelation: Correlation between a time series and a lagged version of itself