

Demographic Analysis

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Motivation

- Demographic analysis
 - show how population changes throughout time
 - Discovers the relationship between population and other attributes
- First person to conduct demographic analysis: John Graunt
 - Analyzed weekly deaths and baptisms back in 1650's
 - Constructed the first mortality table by calculating birth and death rates
 - Vital statistical measurements: population of London, total number of families and average childbearing age, ect.

Motivation

- Goal is to understand how population relates to other attributes
- Analyzed
 - US state population change by year
 - Population flow between states
 - Relationship of population and GDP for each state
 - Distribution of household income for the two most populated states
 - Breakdown of industry revenue of California

Data

- Data source:
 - [United States Census Bureau](#)
 - [Bureau of Economic Analysis - U.S. Department of Commerce](#)
- Time: 2009 to 2013
- Attributes: state population, migration flow, state GDP, household income, Industry revenue
- 18 files and lots data cleaning
- Tools: Plotly and chorddiag in R

Methods

- Choropleth Map with Dropdown
 - Displayed data on state level
- Chord Plot
 - Showed dynamic changes among cities
- Bubble Plot
 - Showed the relationship of different attributes
- Multiple Bar Plot

Demo

- [Link to project website](#)