Analysis for ACT and SAT

Making recommendations for improving SAT participation rate for a suitable state

Problem statement

- Making recommendations for improving SAT participation rate on a suitable state

Workflow

Data and problem statement identification	Exploration	Cleaning	Analysis	Findings

Data and problem statement identification
- Structured data
- ACT datasets for 2017 and 2018
- SAT datasets for 2017 and 2018
- Identify problem statement based on dataset

Exploration
- Data size
- Data formats
- Getting domain knowledge of data columns
- Value boundaries for numerical columns

Cleaning
- Removal of unnecessary symbols
- Rectification of erroneous data value
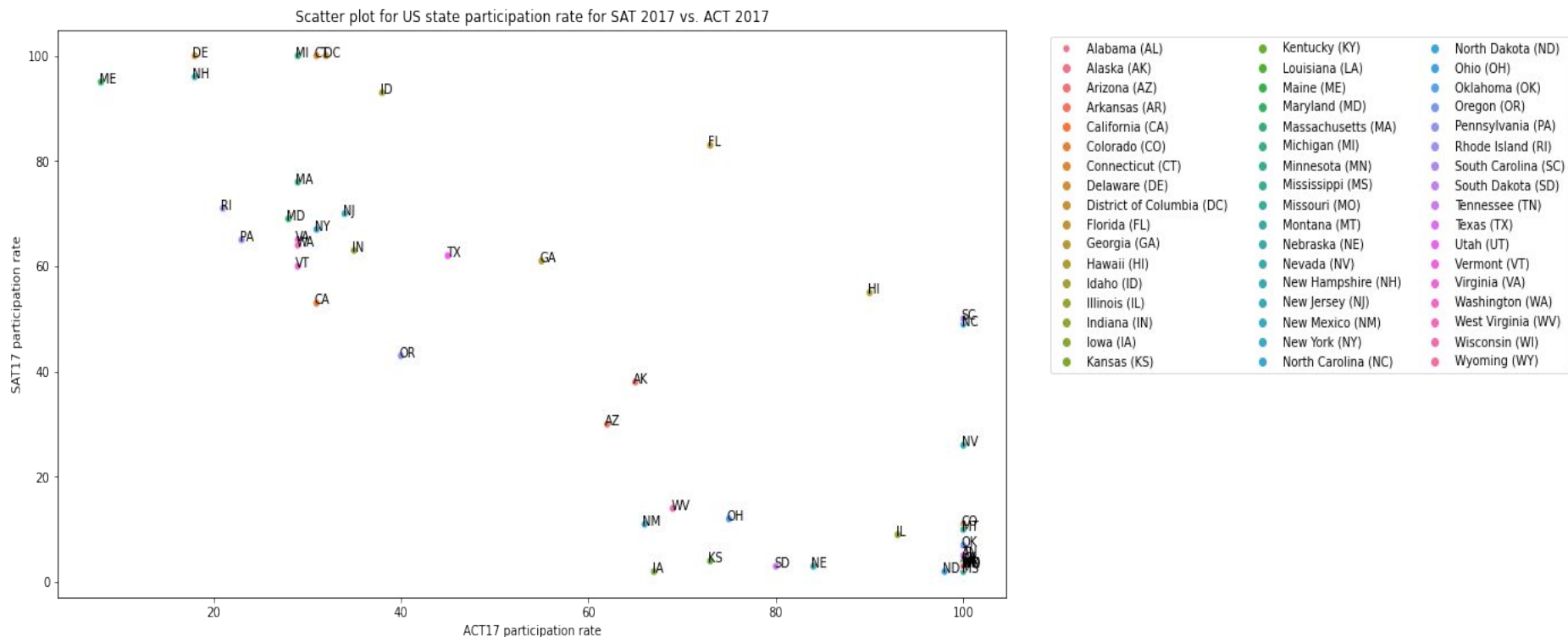- Correction of incorrect data types for statistical processing

Analysis
- Descriptive statistics summary
- Generating suitable plots for trend identification
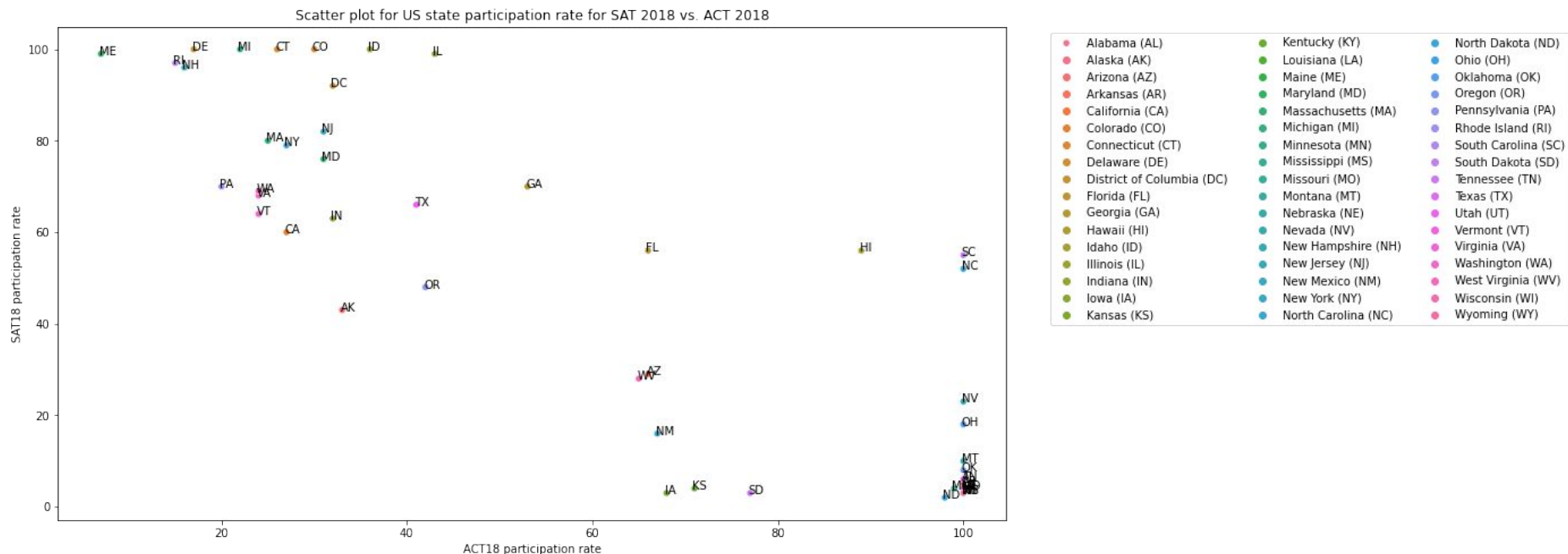- Filtering columns of interests

Findings
- Research online for identification of causes in trends
- Combining analysis and research to make recommendations

Trend : Negative correlation between SAT/ACT for 2017

Scatter plot for US state participation rate for SAT 2017 vs. ACT 2017

Trend : Negative correlation between SAT/ACT for 2018

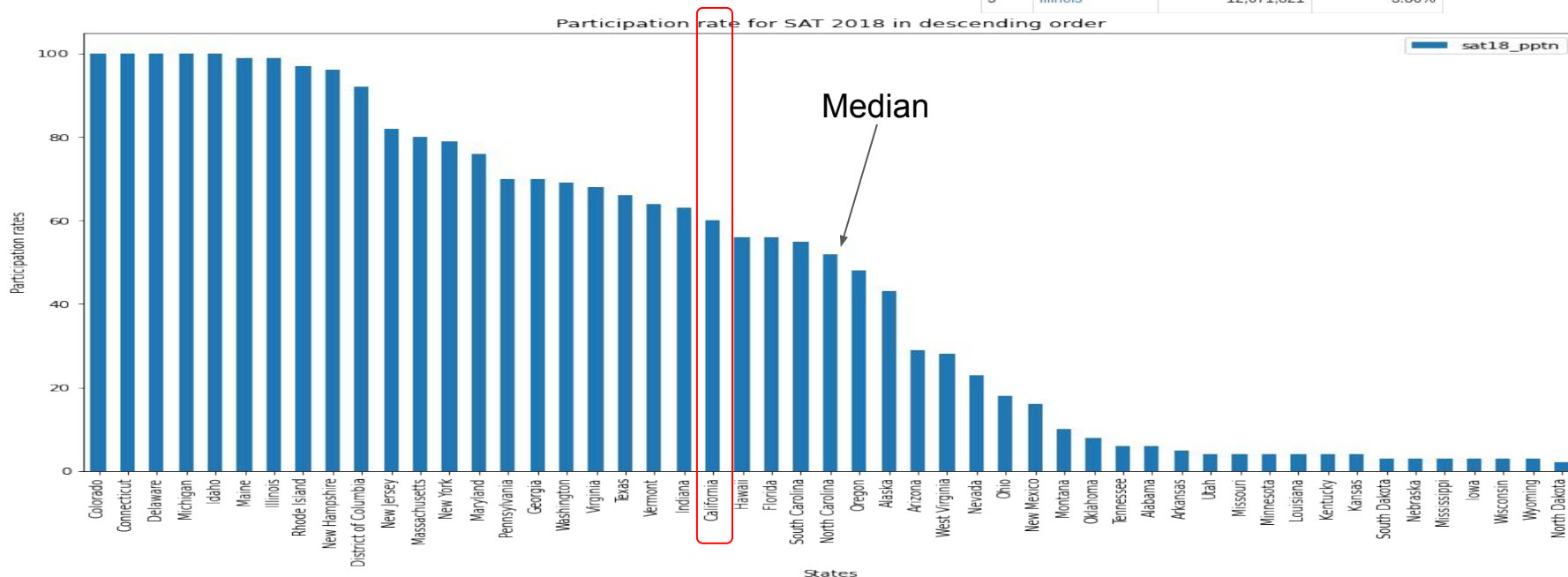Scatter plot for US state participation rate for SAT 2018 vs. ACT 2018

State to choose for improving SAT

Considerations in choosing California state for improving SAT participation

- Population (Most populous state)
- No state laws mandating SAT participation
- Existing Participation rate

Rank	State	July 2019 Estimate	Percent of Total
1	California	39,512,223	11.91%
2	Texas	28,995,881	8.74%
3	Florida	21,477,737	6.47%
4	New York	19,453,561	5.86%
5	Illinois	12,671,821	3.86%

Participation rate for SAT 2018 in descending order

Recommendations

- Replacing California High School Proficiency Examination (CHSPE) with SAT
- Legislating SAT as state compulsory exam
- Subsidise SAT fees

End