Research of COVID-19 impact and trend in USA using statistical approach

December 2020

Hello!

I am Artsiom Naslednikau

I am here to give a presentation.

- https://orcid.org/0000-0002-7630-1972
- https://github.com/nasled/covid_research

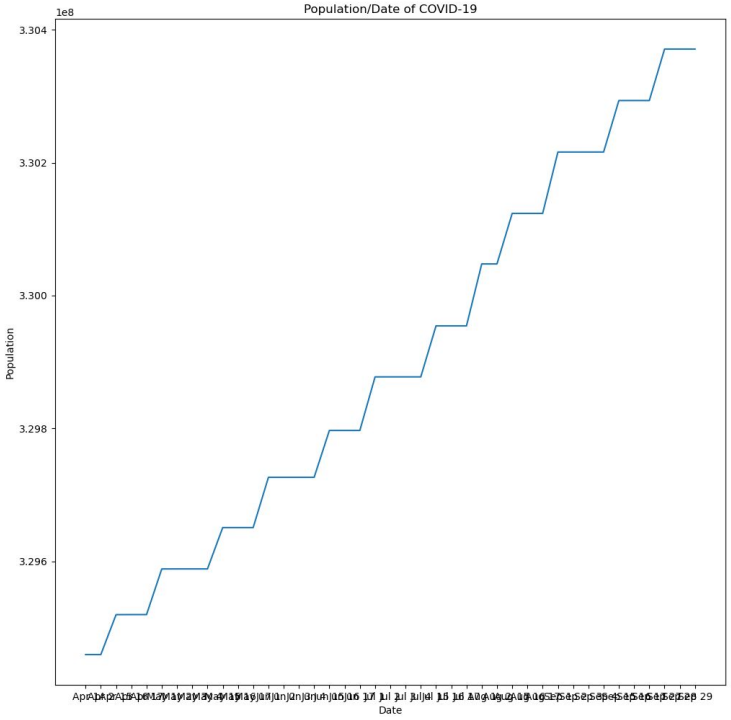
Used Methods

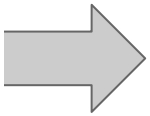
- Attribute Selection
- Data Normalization
- Regression Comparison
- Feature Classification
- Clustering

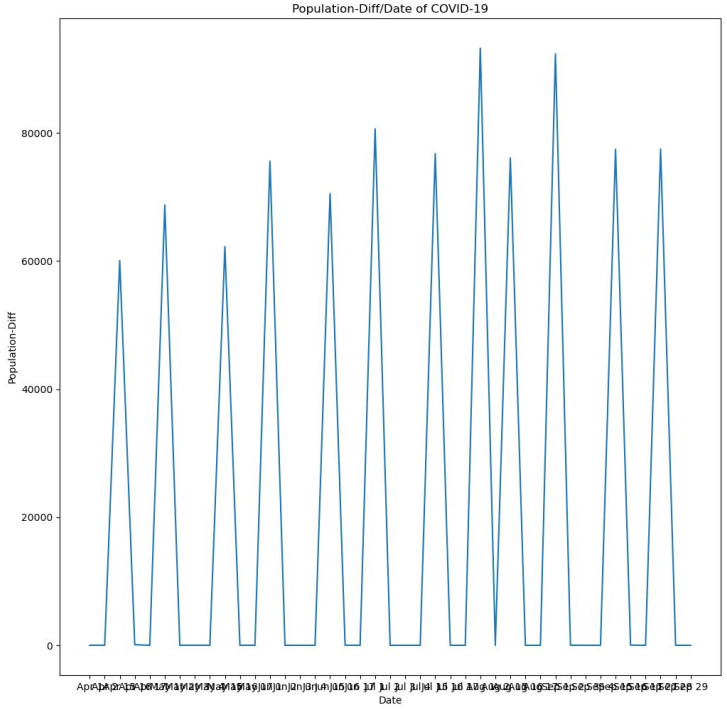
Selected Attributes

Property	Description	Type
submission_date	**Date of counts**	**Date & Time**
conf_cases	**Total confirmed cases**	**Number**
conf_death	**Total number of confirmed deaths**	**Number**

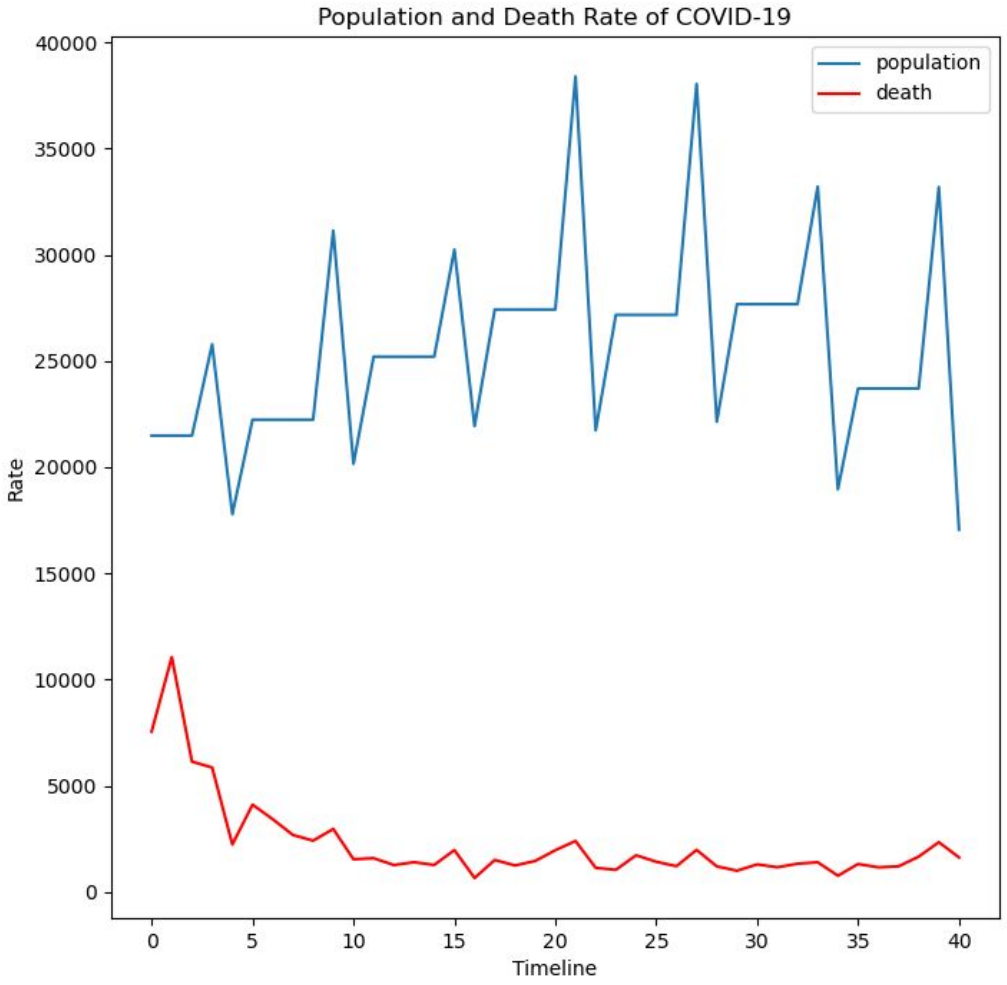
Data Normalization of USA population



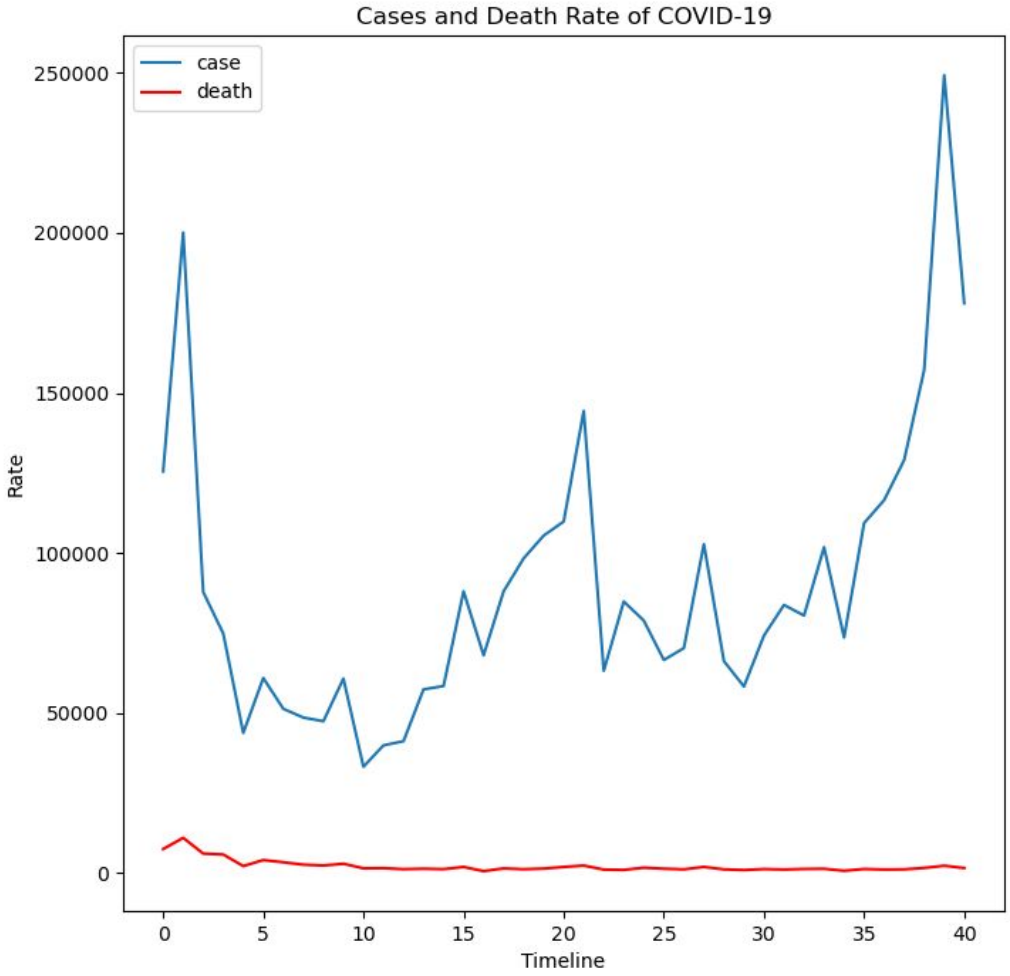




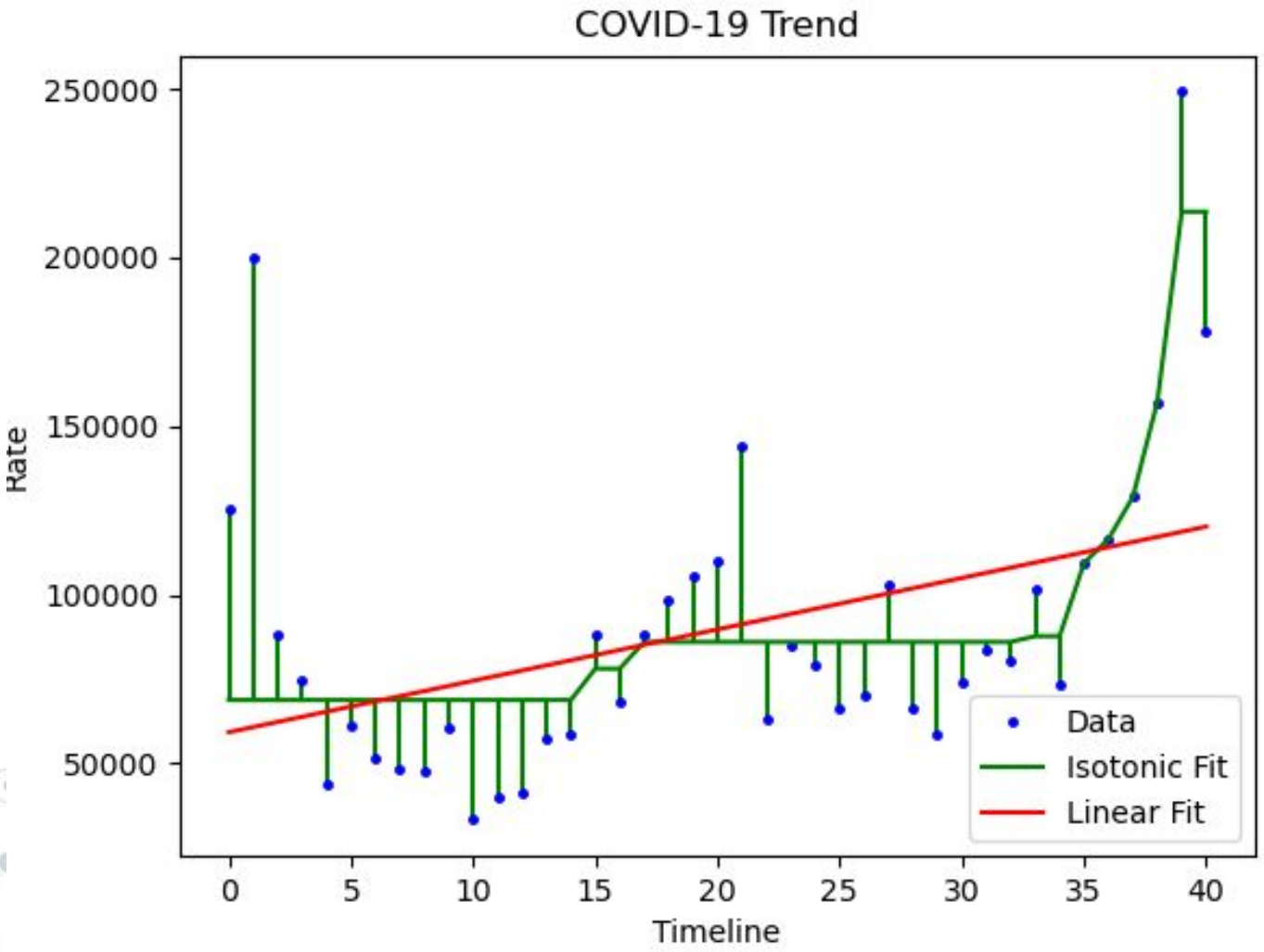
Population and Death Rate Interconnection



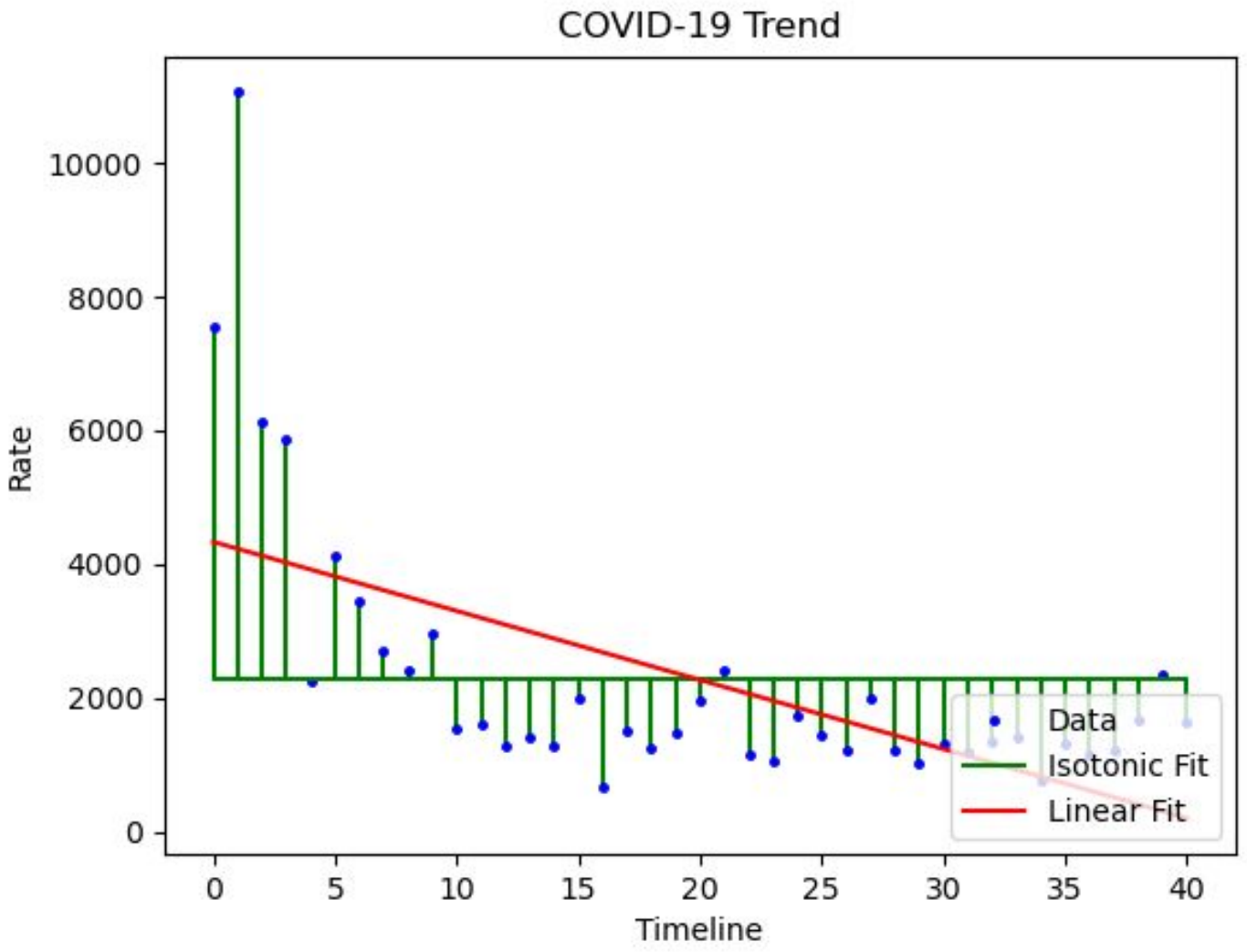
Cases and Death Rate Interconnection



Cases Rate Isotonic Regression



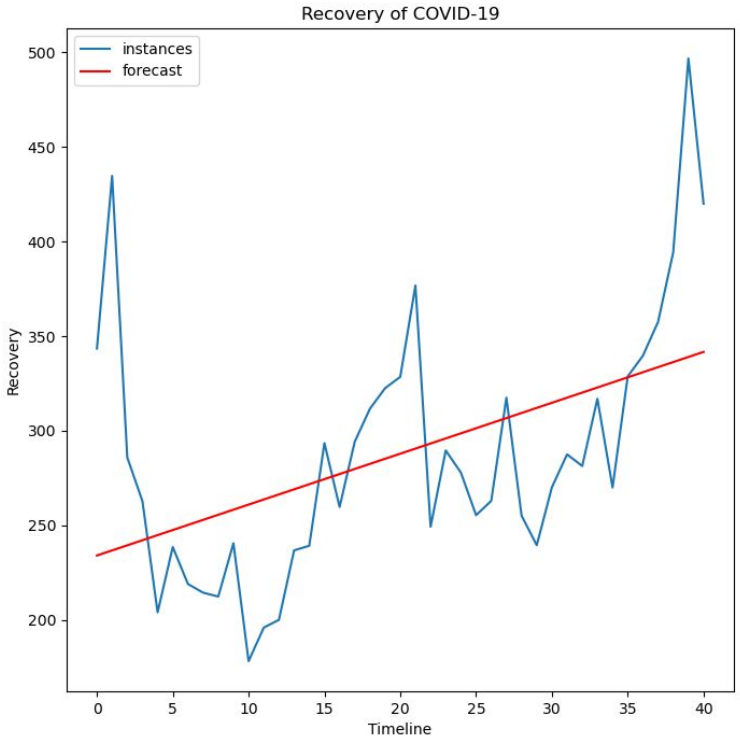
Death Rate Isotonic Regression

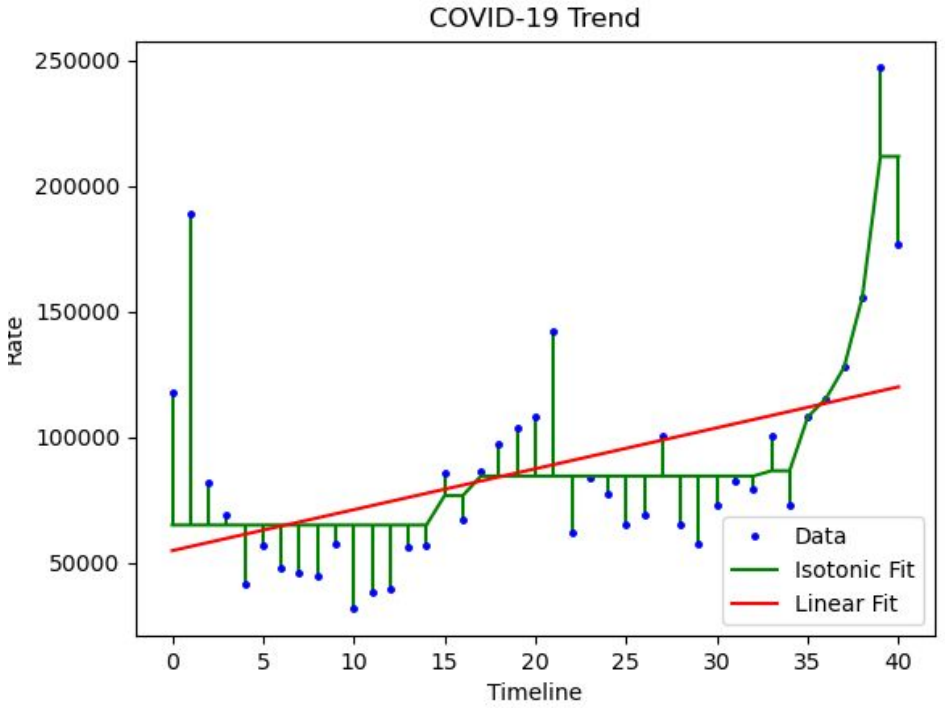


Recovery Formula

Recovery = Case - Death

Linear and Isotonic Regressions of Recovery Rate

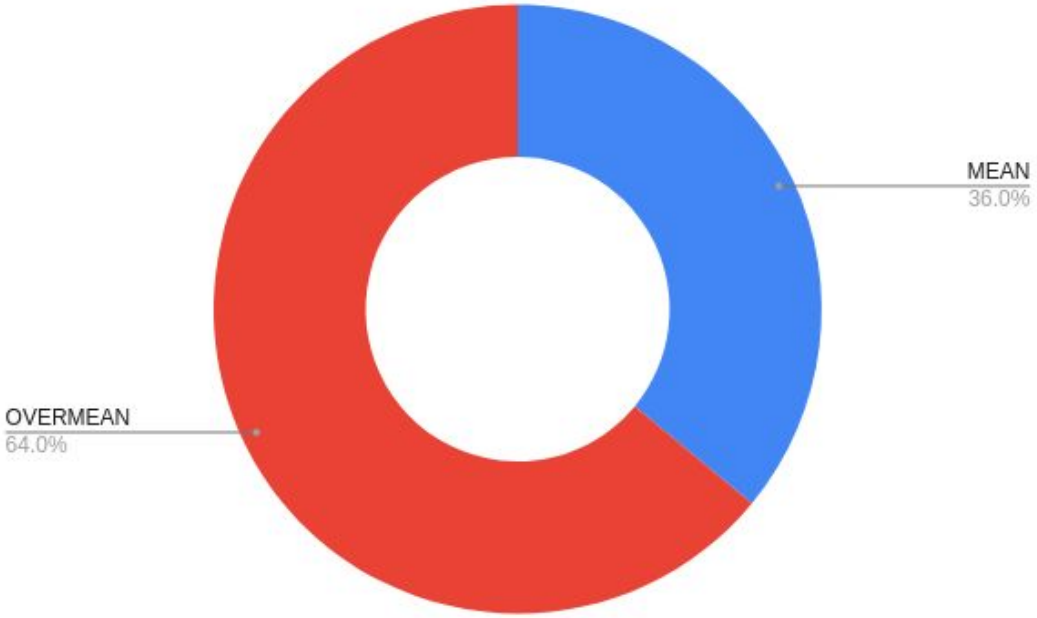




Recovery Rate Classification by State of COVID-19 in USA

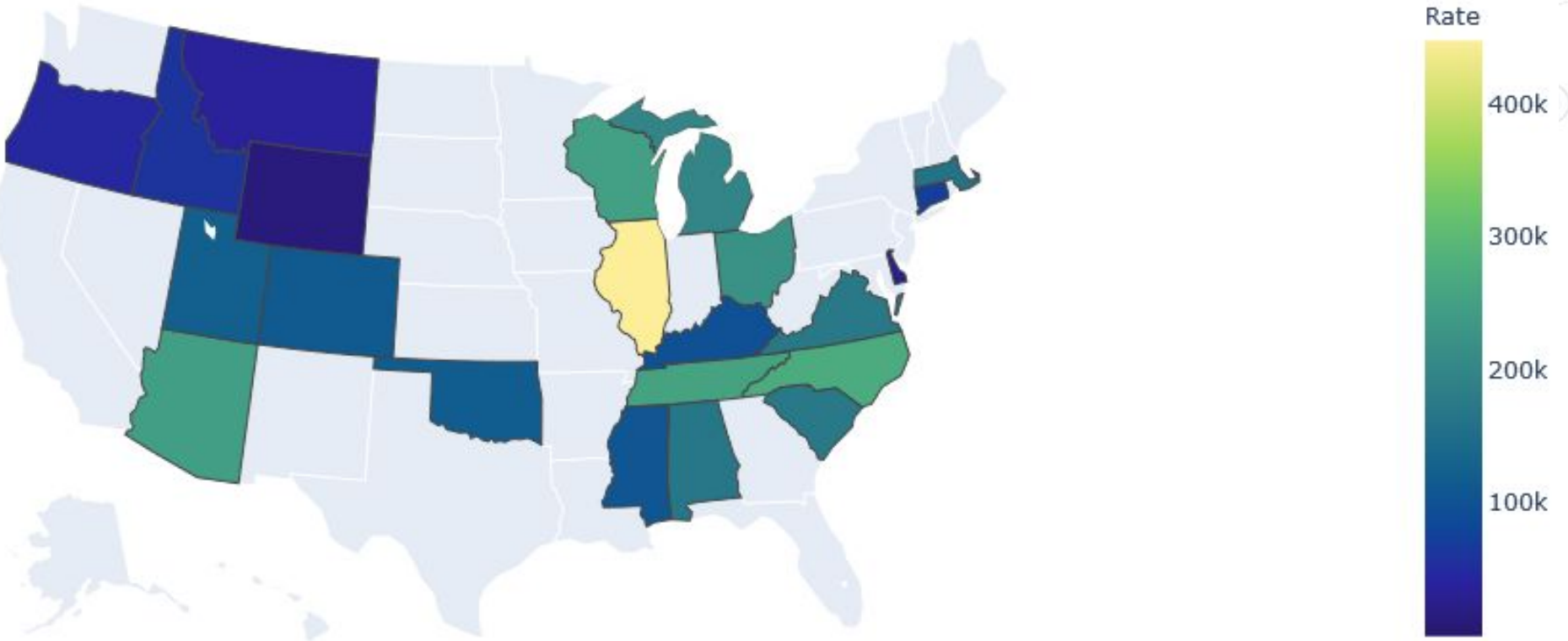
25 states in total.

16 states bellow mean and ***9*** states over mean.

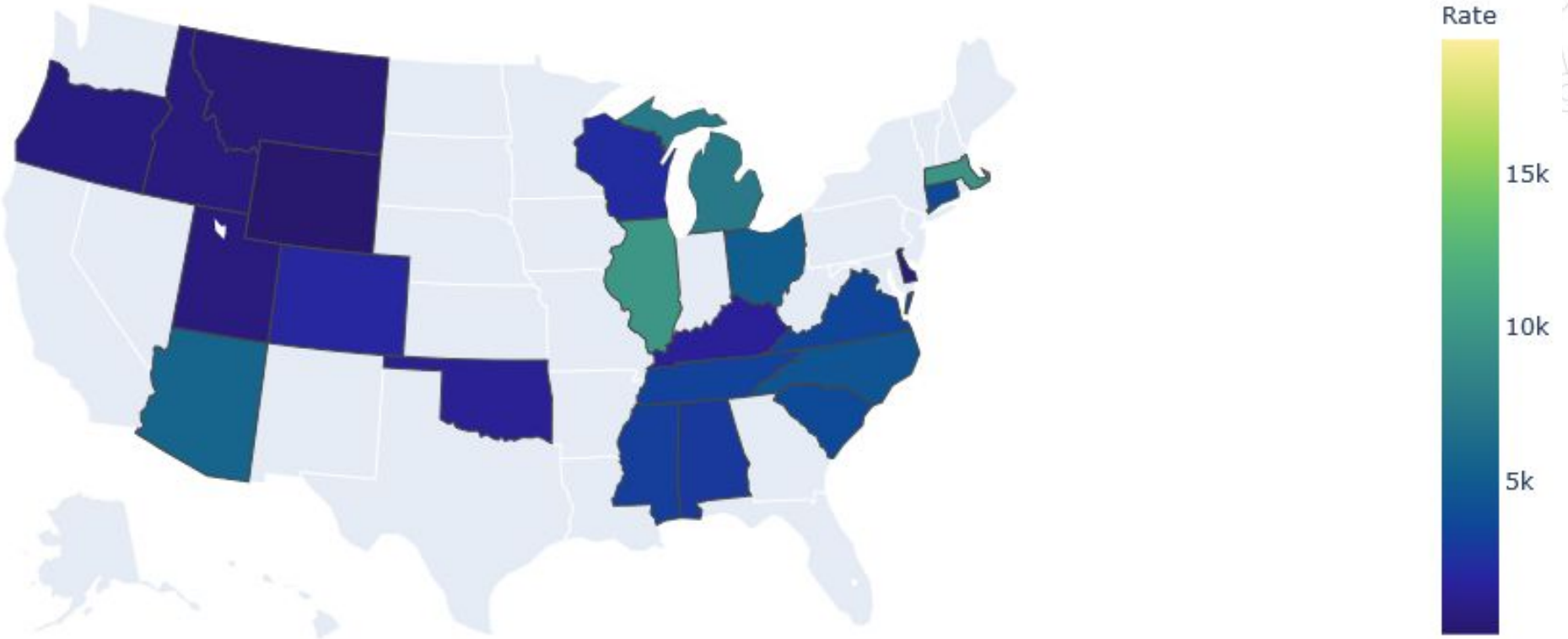


MEAN	OVERMEAN
WY	NC
ID	**NY**
CO	OH
CT	AZ
MA	TN
AL	MI
VA	WI
MS	IL
OR	GA
MT	
SC	
KY	
PR	
OK	
UT	
DE	

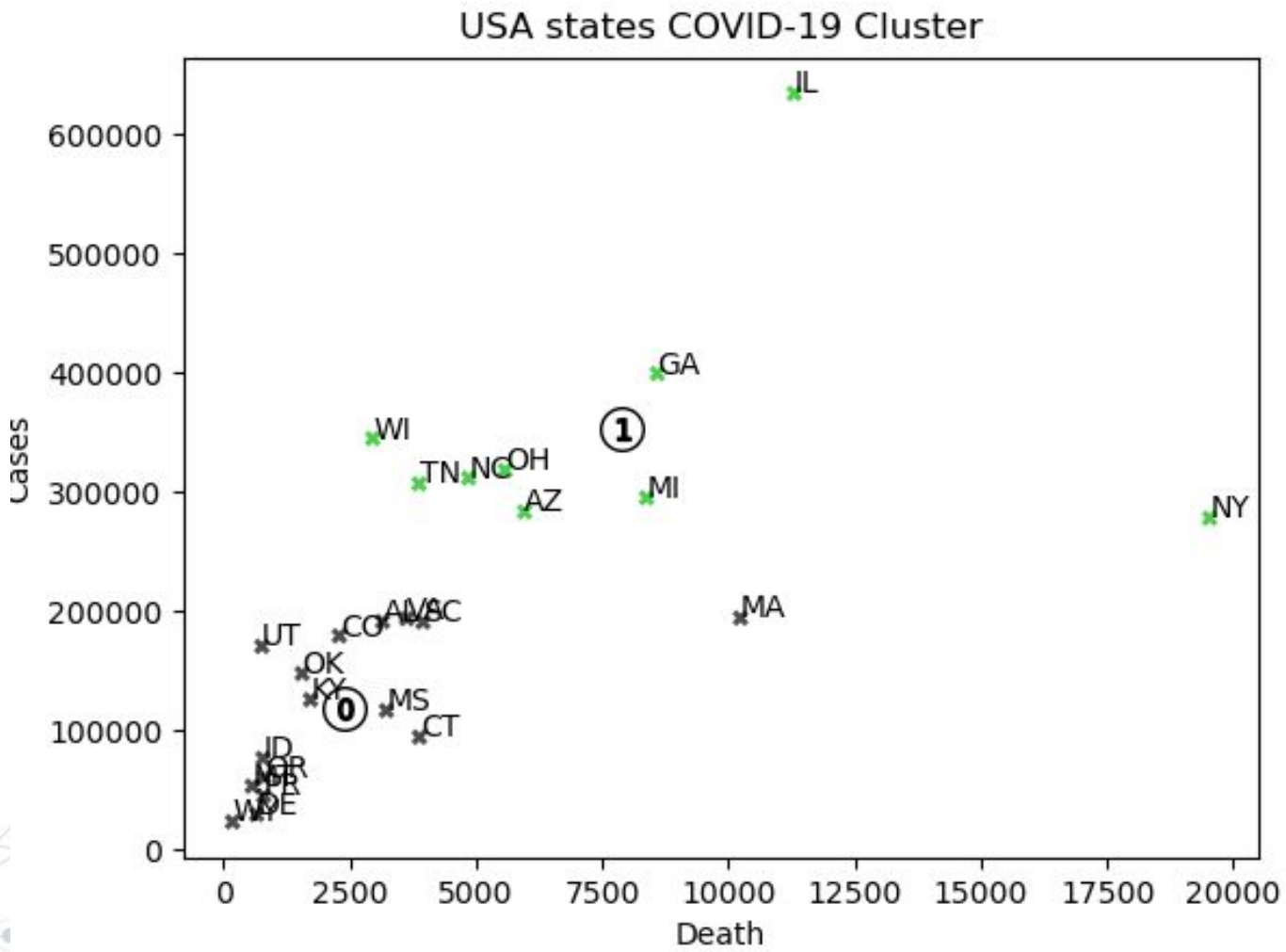
Cases Rate by State of COVID-19 in USA



Death Rate by State of COVID-19 in USA



Clustering by State of COVID-19 in USA



Python Libs Used

- Statistics
- Scipy
- Numpy
- Math
- Matplotlib
- Plotly
- Pandas

Thanks!

Any questions?