March 27th, 2023

Analyzing Open Data about Los Angeles Metropoliton area

Presented by:

Rudro, R

Omdena Local Chapters

Why did we do it?

Why we decided to take on that topic?

- Increase the number of beds and trauma units ??
- Enough doctors??
- Closest health care??
- Is my insurance accepted??

Omdena Local Chapters

Data Collection and Code to StreamLit

- Date used were all open source
- Datasets merged together for exploratory data analysis
- Data-preprocessing was done on the merged dataset
- Link: geoHub
- Link to the app code: https://github.com/rudro12356/Omdena-streamlit-LA

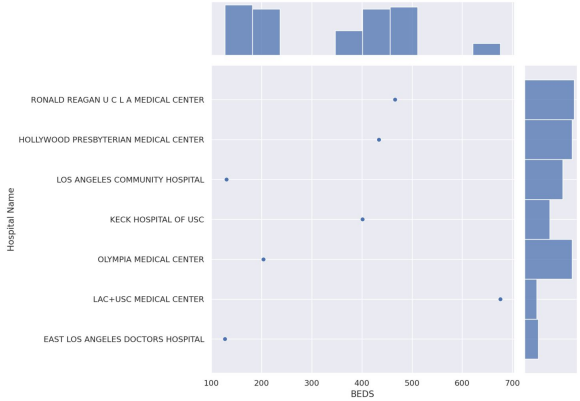
What did we do?

How does it work?

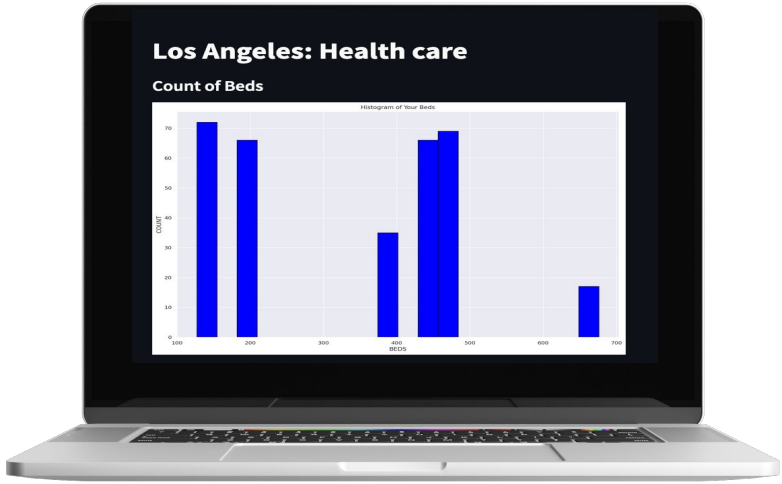
EDA Streamlit web app

Using python the jupyter notebook was converted into a web app on streamlit

EDA results:



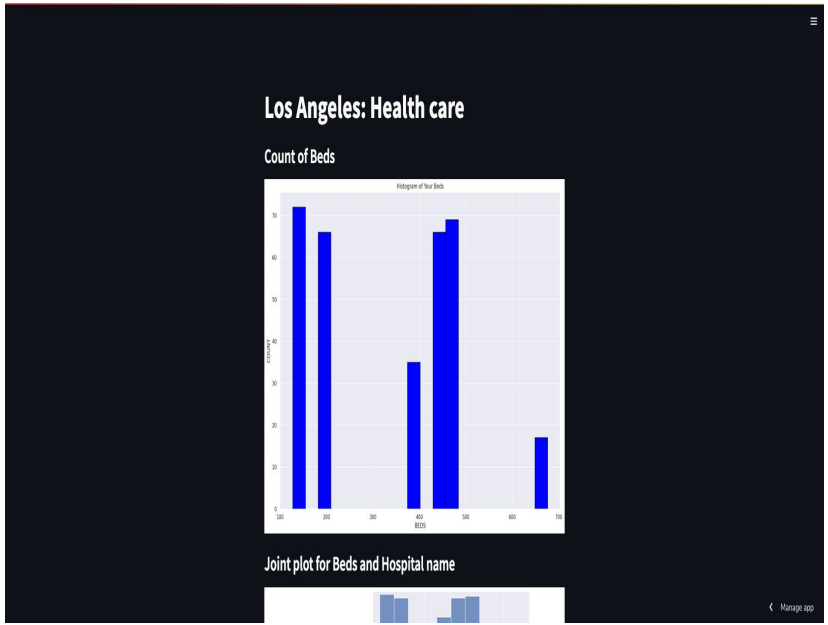
https://rudro12356-omdena-la-health.streamlit.app/

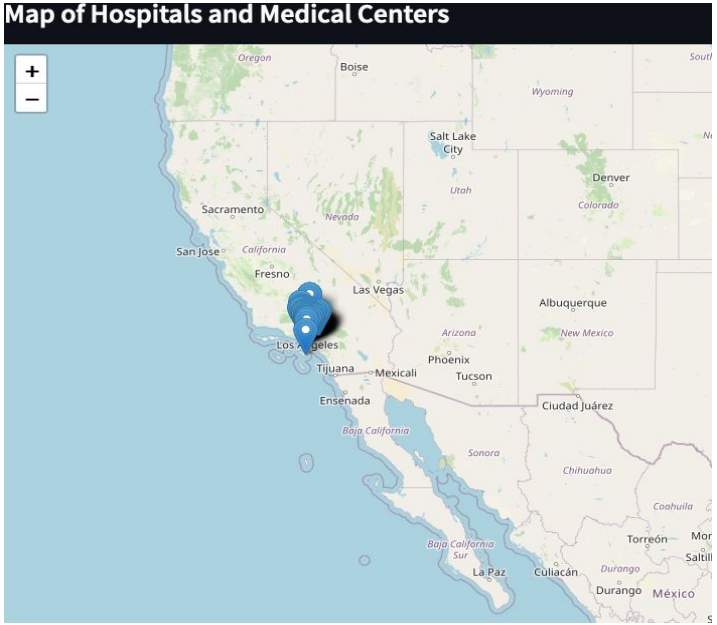


EDA app for healthcare using Streamlit

Omdena Local Chapters

Project Demo





EDA app for healthcare using Streamlit

Omdena Local Chapters

What we learned?
What can be next?

- We cannot determine which healthcare or medical center is the best for us
- There are parameters like insurance, dates, distance and much more
- What if we come up with an app that could give us suggestions of hospitals and facilities (optimum suggestions)

Average charges based on provider name with location

Provider Name	LATITUDE	LONGITUDE	Average Covered Charges
OLYMPIA MEDICAL CENTER	34.0573	-118.3605	102,538.6741
KECK HOSPITAL OF USC	34.062	-118.2013	99,331.3406
RONALD REAGAN UCLA MEDICAL CENTER	34.0666	-118.4466	78,459.9793
HOLLYWOOD PRESBYTERIAN MEDICAL CENTER	34.0965	-118.2905	63,191.7071
LAC+USC MEDICAL CENTER	34.0596	-118.2084	50,866.7194
EAST LOS ANGELES DOCTORS HOSPITAL	34.0236	-118.1842	41,233.5053
LOS ANGELES COMMUNITY HOSPITAL	34.0193	-118.1865	38,275.3113

Big picture of a new Data science project

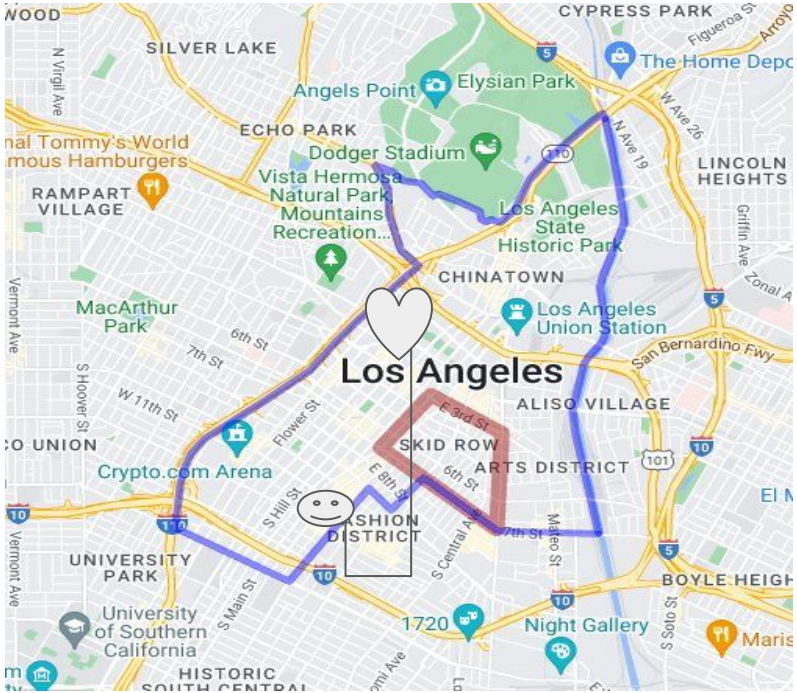
- What if I am in need of medical needs in the middle of street X somewhere in LA ?
- I don’t know the best option for me depending on the insurance I own, my problem, my location, affordability and much more

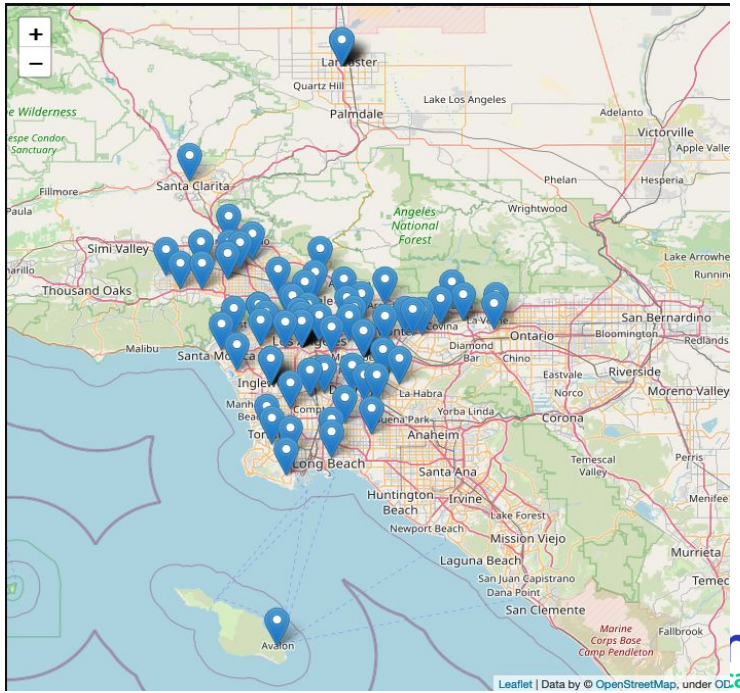
Omdena
Local Chapters

Development of a ML model

- What if we make a ML model that can take a lot of parameters which we discussed earlier?
- The model can then suggest few names of facilities to me where I can rush to for medical assistance.

My position and a best healthcare for me based on the model





Conclusion

- This is just a overview
- We need to collect more datasets related to health insurance, doctor's appointment, nurses available and much more
- Extensive pre-processing of the data is required
- Healthcare analyst which deep understanding of the domain is very important for this project
- We can finally make a model that can be integrated into a mobile app or web-app which can be later spread on the market for testing

Thank you!!!

Omdena
Local Chapters