



ILLINOIS HOSPITAL ANALYSIS

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Background

Are you living in Illinois and trying to find hospitals in your area and compare their ratings?

Our project allows you to look at the hospitals in your area, their ratings, and the number of staffed beds that each hospital has.

Our Process

Found dataset with
enough information
about all Illinois
Hospitals

Scraped and cleaned
up our dataset and
looked for the most
useful and interesting
information

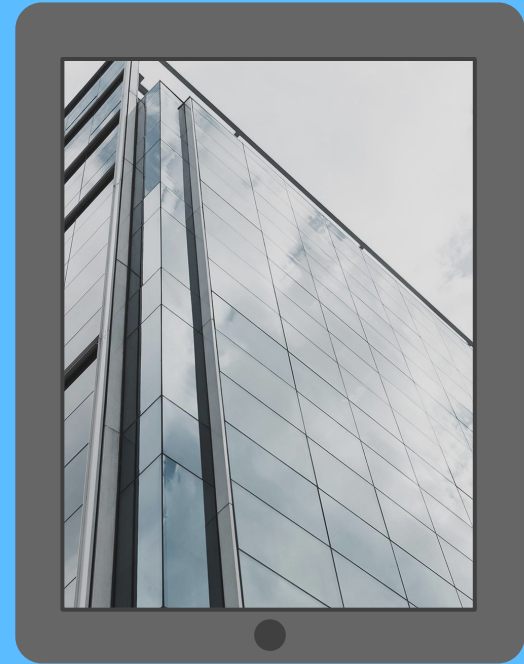
Decided on web
design and created
HTML

Used the
information to
decide on the best
visualizations for
the user



Technologies Used

- Jupyter Notebook
- PgAdmin
- HTML/Flask
- Javascript
- MapBox
- Python



Why We Chose this Topic?

We chose this topic after having a conversation about healthcare in the US and wanted to zone in specifically in Illinois to help people when choosing the best hospital that would fit their individual needs.

Illinois Hospital Data from AHD



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Individual Hospital Statistics for Illinois

Statistics for non-federal, short-term, acute care hospitals.
Data are based on each hospital's most recent cost report and other sources / [Definitions](#)

Hospital Name	City	Staffed Beds	Total Discharges	Patient Days	Gross Patient Revenue (\$000)
Carle Richland Memorial Hospital	Olney	81	1,218	3,954	\$174,055
Northwestern Medicine Kishwaukee Hospital	DeKalb	98	5,257	22,918	\$1,029,869
375th Medical Group - Scott Air Force Base Medical Center	Scott Air Force Base	0	0	0	\$0
AdventHealth Bolingbrook	Bolingbrook	134	5,159	21,501	\$663,377
AdventHealth GlenOaks	Glendale Heights	138	4,636	23,126	\$282,596
AdventHealth Hinsdale	Hinsdale	261	9,104	43,576	\$865,900
AdventHealth La Grange	La Grange	177	6,309	28,480	\$582,797
Advocate Christ Medical Center	Oak Lawn	782	38,806	219,199	\$3,683,005

https://www.ahd.com/states/hospital_IL.html

Scraped & Cleaned Data

BeautifulSoup → Pandas DataFrame → CSV

Hospital Name	City	StaffedBeds	TotalDischarges	PatientDays	Gross PatientRevenue (\$000)
Carle Richland Memorial Hospital	Olney	81	1218	3954	174055
Northwestern Medicine Kishwaukee Hospital	DeKalb	98	5257	22918	1029869
AdventHealth Bolingbrook	Bolingbrook	134	5159	21501	663377
AdventHealth GlenOaks	Glendale Heights	138	4636	23126	282596
AdventHealth Hinsdale	Hinsdale	261	9104	43576	865900
AdventHealth La Grange	La Grange	177	6309	28480	582797
Advocate Christ Medical Center	Oak Lawn	782	38806	219199	3683005
Advocate Condell Medical Center	Libertyville	273	14177	71353	1415880
Advocate Good Samaritan Hospital	Downers Grove	288	15249	68733	1162077
Advocate Good Shepherd Hospital	Barrington	176	10039	39271	860020
Advocate Illinois Masonic Medical Center	Chicago	292	11677	52130	1827175

Hospital Review & Coordinates from Google

Manually collected from google

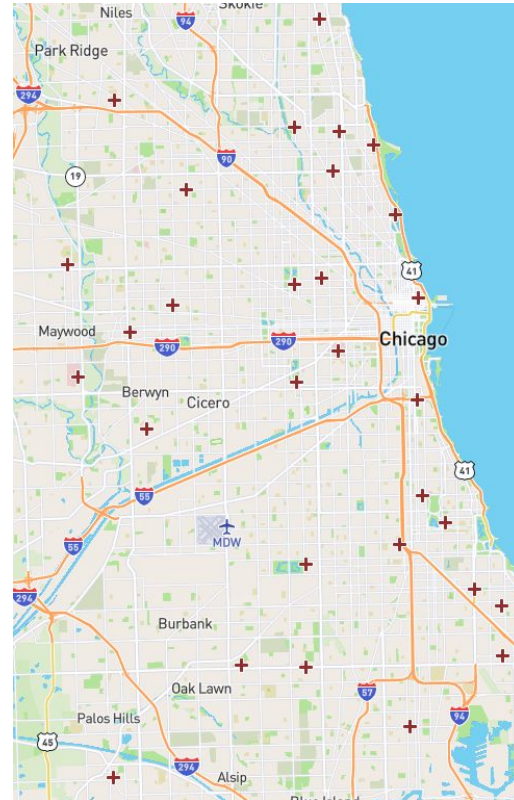
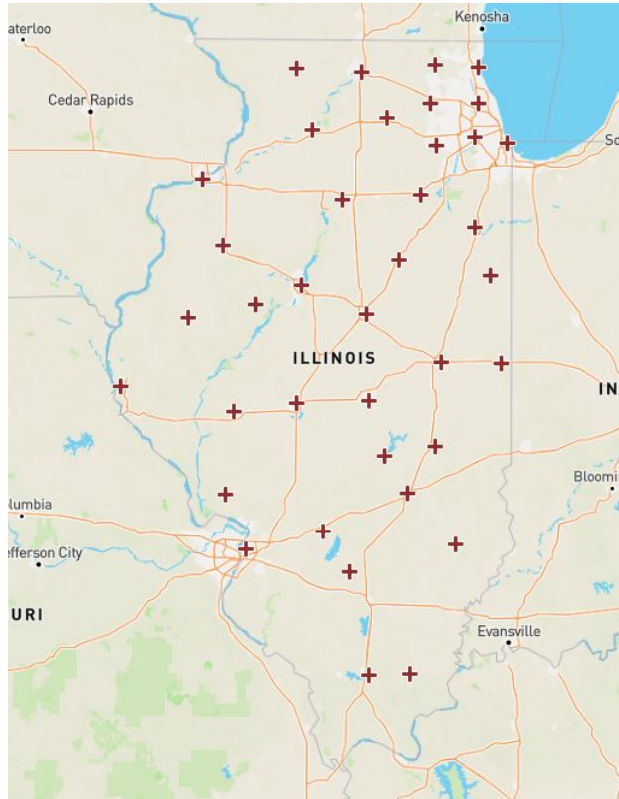
hospital_name	city	latitude	longitude	google_stars
Carle Richland Memorial Hospital	Olney	38.735037	-88.077077	3.1
Northwestern Medicine Kishwaukee Hospital	DeKalb	41.929474	-88.750365	2.4
AdventHealth Bolingbrook	Bolingbrook	41.680731	-88.083622	2.5
AdventHealth GlenOaks	Glendale Heights	41.914654	-88.057238	2.7
AdventHealth Hinsdale	Hinsdale	41.805609	-87.920693	3.2
AdventHealth La Grange	La Grange	41.796662	-87.886265	3
Advocate Christ Medical Center	Oak Lawn	41.721989	-87.732829	3.4
Advocate Condell Medical Center	Libertyville	42.274473	-87.957637	2.6

Final Dataset

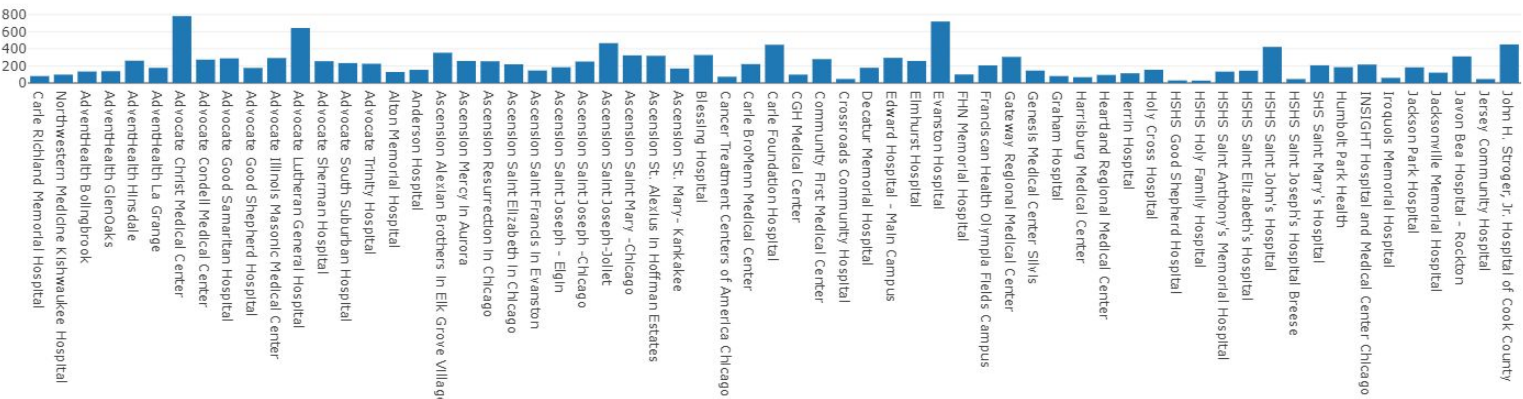
Merge Pandas DataFrames → Cleaning & Formatting → Postgres Database (pgAdmin)

hospital_name	city	staffedbeds	totaldischarges	patientdays	gross_patientrevenue_usd	latitude	longitude	google_stars
AdventHealth Bolingbrook	Bolingbrook	134	5159	21501	663377	41.680731	-88.083622	2.5
AdventHealth GlenOaks	Glendale Heights	138	4636	23126	282596	41.914654	-88.057238	2.7
AdventHealth Hinsdale	Hinsdale	261	9104	43576	865900	41.805609	-87.920693	3.2
AdventHealth La Grange	La Grange	177	6309	28480	582797	41.796662	-87.886265	3.0
Advocate Christ Medical Center	Oak Lawn	782	38806	219199	3683005	41.721989	-87.732829	3.4
Advocate Condell Medical Center	Libertyville	273	14177	71353	1415880	42.274473	-87.957637	2.6
Advocate Good Samaritan Hospital	Downers Grove	288	15249	68733	1162077	41.817932	-88.009037	2.9
Advocate Good Shepherd Hospital	Barrington	176	10039	39271	860020	42.152293	-88.131016	3.1
Advocate Illinois Masonic Medical Center	Chicago	292	11677	52130	1827175	41.936758	-87.651264	3.1
Advocate Lutheran General Hospital	Park Ridge	643	26642	148612	2514649	42.038367	-87.848199	3.0
Advocate Sherman Hospital	Elgin	255	18591	54775	1287999	42.069926	-88.331159	2.9
Advocate South Suburban Hospital	Hazel Crest	233	9679	44688	820081	41.566094	-87.694652	2.5

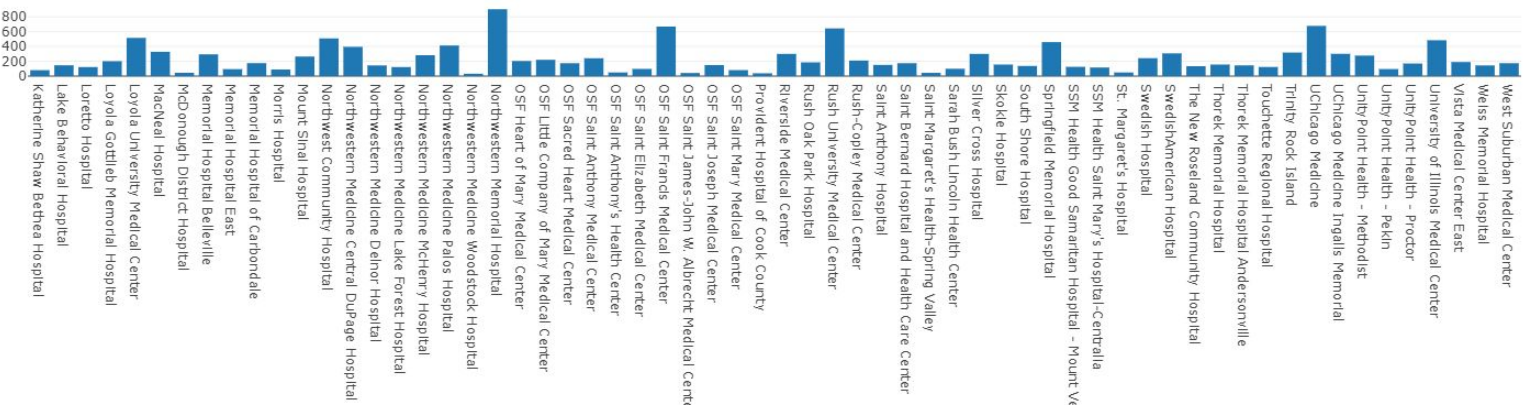
Map visualization



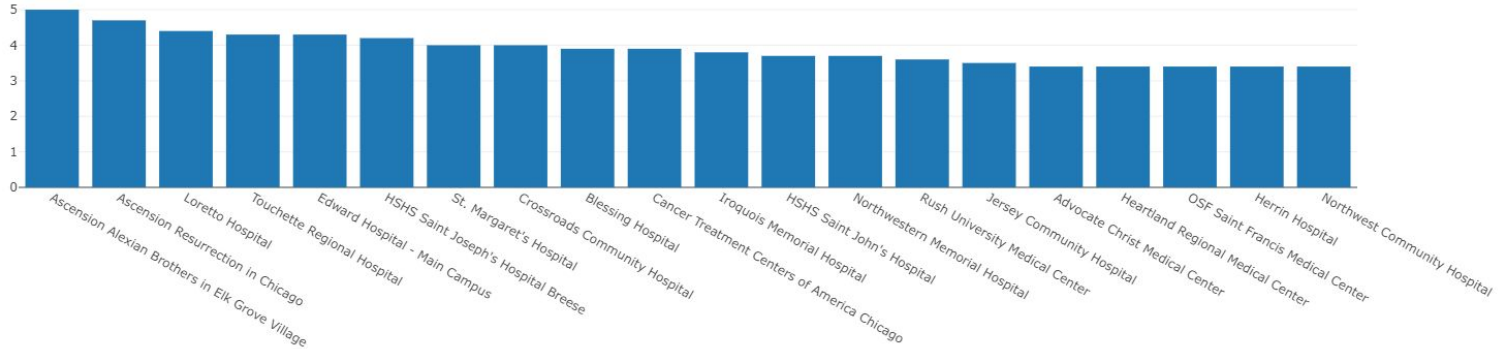
Staffed Beds by Hospital, A-J



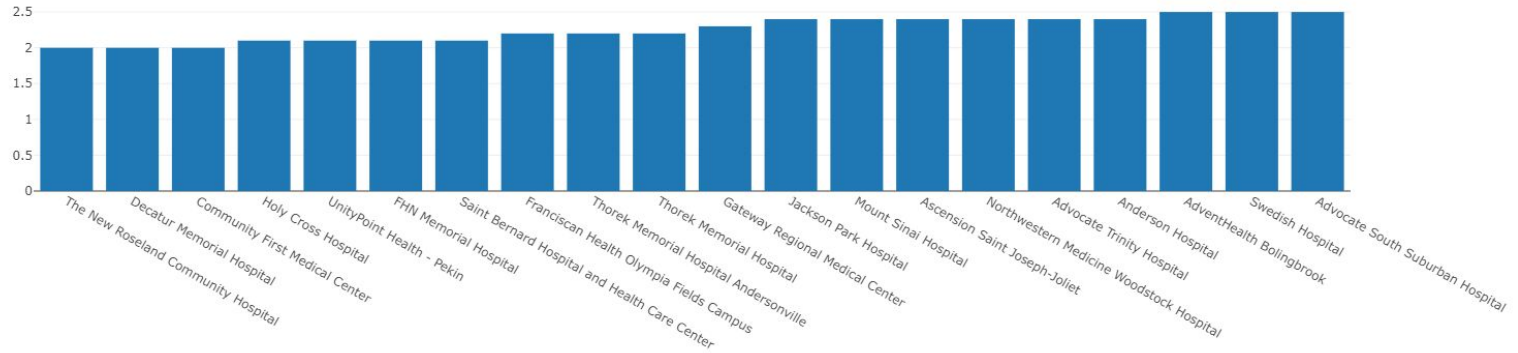
Staffed Beds by Hospital, K-Z



Top 20 Hospitals - Google Stars

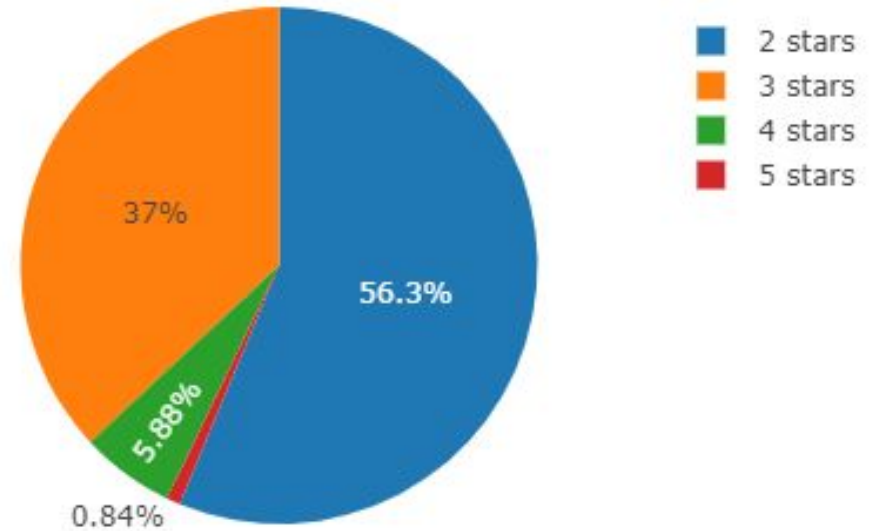


Google Stars - Bottom 20 Hospitals



Distribution of Reviews by Number of Stars

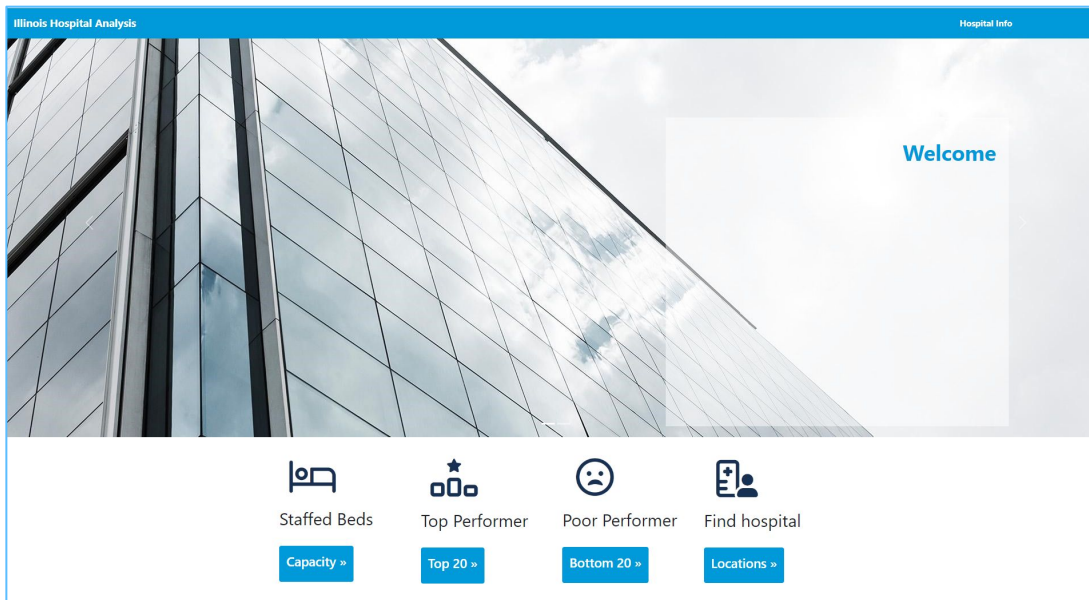
Is low patient satisfaction
in our dataset indicative
of broader trends about
American healthcare?



Web Page Design

HTML → Rendering data with Flask

- Use Bootstrap v5.0 Carousel Template
- Modify HTML elements including:
 - Texts
 - Tables
 - Images
 - URLs
- Create a Flask application
- Render a static HTML template with Flask



Demo of App



Changes we would make/difficulties we had

Difficulties

- Getting web image to be responsive to our laptop size
- Only allowed to access data site a certain amount of times
- Scraping the star reviews of each hospital
- Accessible from USA only

Changes

- Choosing a more broad topic to be able to find more data
- Using a more openly available data set
- Manually collected data from google

Questions?

CREDITS: This presentation template was created by Slidesgo, including icons by Flaticon, and infographics & images by Freepik.

