DOCTOR VISIT ANALYSIS USING PYTHON

PROJECT TOPIC

The main objective of the doctor visit analysis using the python is to gain actionable insights to improve decision making and potentially enhance patient care and outcomes. Analysing doctor visit data using Python tools can provide valuable Insights into various aspects of health care by using dataset.

AGENDA

- The main agenda of doctor visit analysis Is to helping to ensure a systematic and effective exploration of the dataset to derive actionable insights and contribute to improves decision making in the health care domain.

- ultimately the main goal is to improve Healthcare services , patient outcomes and decision-making processes.

PROJECT OVERVIEW

- ✓ By the help of this analysis , we can provides a ultimately contributing to enhanced decision-making in healthcare Practices.
- ✓ The findings and recommendations will be presented in a clear and informative manner , supporting healthcare Providers and administrators in making data-driven decisions To improve overall healthcare efficiency and patient Experiences.

WHO ARE THE END USERS?

HEALTHCARE PROVIDERS :
Doctors , nurses , and other healthcare professionals may use doctor visit analysis to gain insights into patient trends , diagnose illnesses more effectively , identify patterns patient outcomes and improve treatment.

DATA ANALYSTS AND DATA SCIENTISTS :
Data analysts and data scientists working in healthcare organizations or research institutions can use the project asa a reference for similar analysis and as a starting point for further investigations

HEALTH INSURANCE COMPANIES :
Insurers may use doctor visit analysis to evaluate risk profiles , set insurance premiums , and identify patterns of health care utilization to develop more effective coverage plans.

SOLUTION AND VALUE PROPOSITION

- The solution and value proposition of doctor visit analysis is to provide actionable information to optimize healthcare practices , enhance decision-making , and improve patient care and outcomes.

- It supports stakeholders in making informative decisions , Enhancing operational efficiency and improving quality and effectiveness of healthcare services.

- The key elements are data driven-insights , enhanced patient care , resource optimization and research advancements.

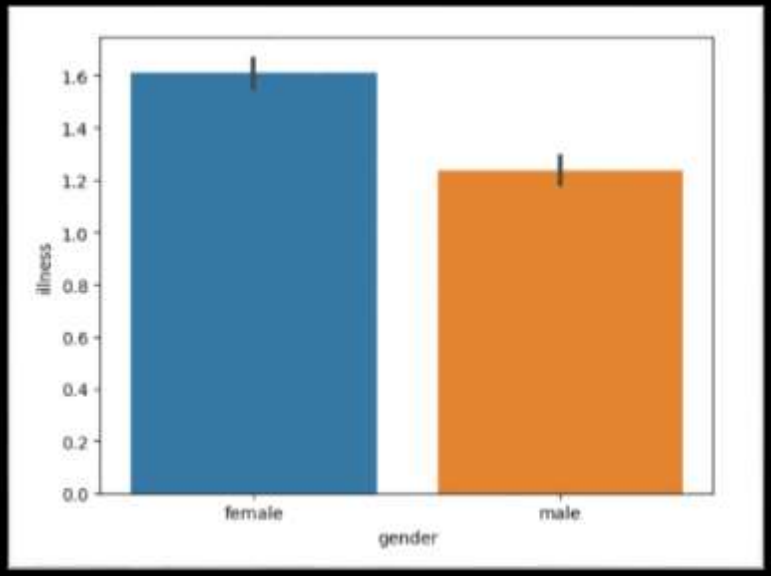
MODELING

- It involves applying various data analysis and machine learning techniques to achieve specific objectives and derive actionable Insights.

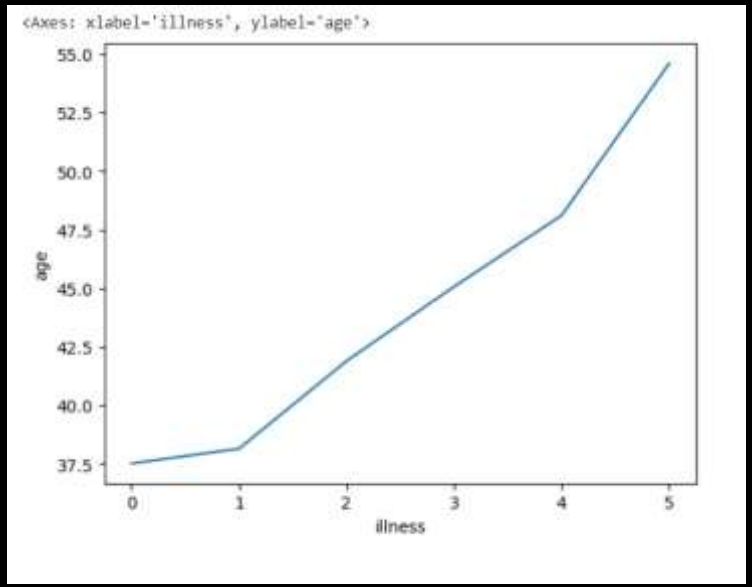
- Throughout the modelling process , it is essential to validate and evaluate the models using appropriate evaluation metrics , cross -validation techniques , and statistical tests.

- Model Interpretability and transparency should also be considered , especially in healthcare domain and it is crucial for trust and decision-making.

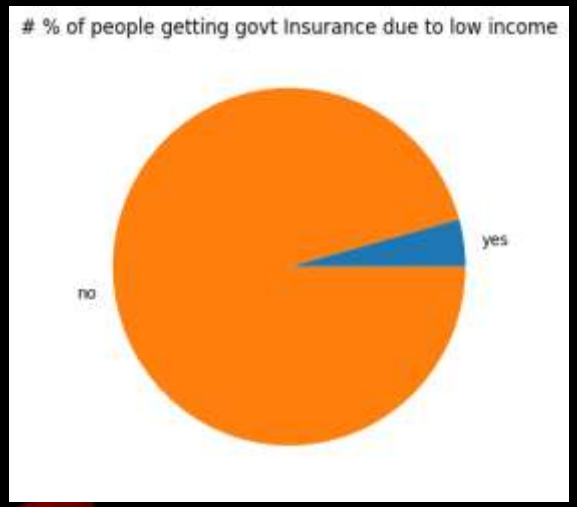
- By analysing this bar graph , we can observe that the rate of illness for female is higher than the rate of illness for male.
- ✓ So, we can conclude that females are having more illness than the male ones.

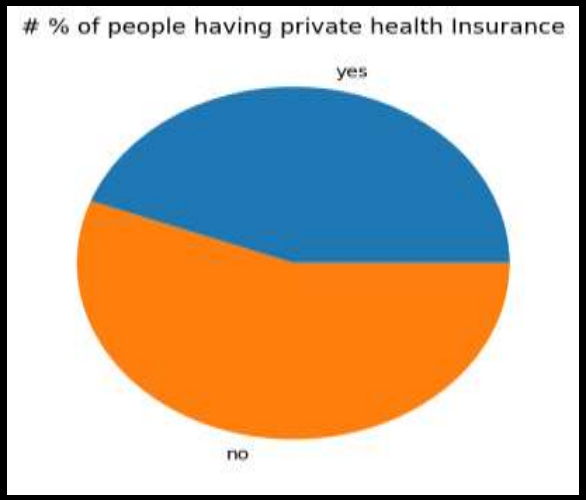


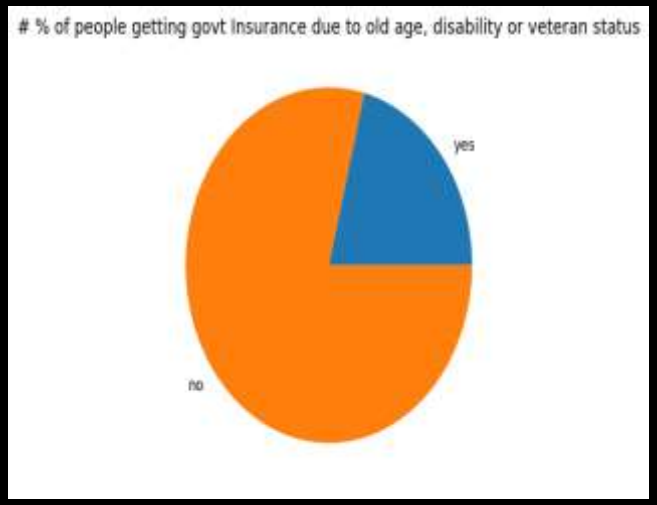
- Here , the line plot shows that the higher the age ,the higher the illness will be.
- ✓ So , we conclude that the at age of 55 , the rate of illness reached at maximum.



- ✓ By analysing the data there is a notable disparity in people getting government insurance due to low income , people who are having private health insurance and people getting government insurance due to old age, disability or veteran status is clearly observed in the below pie charts.







SCREENSHOTS FROM THE PROJECT

- ✓ **Reading the dataset**

```
df=pd.read_excel("/content/DoctorVisits (2).xlsx")
print(df)
```

```
      Unnamed: 0  visits  gender   age  income  illness  reduced  health  \
0              1       1  female  0.19    0.55        1        4       1
1              2       1  female  0.19    0.45        1        2       1
2              3       1    male  0.19    0.90        3        0       0
3              4       1    male  0.19    0.15        1        0       0
4              5       1    male  0.19    0.45        2        5       1
...          ...     ...     ...   ...     ...      ...      ...     ...
5185        5186       0  female  0.22    0.55        0        0       0
5186        5187       0    male  0.27    1.30        0        0       1
5187        5188       0  female  0.37    0.25        1        0       1
5188        5189       0  female  0.52    0.65        0        0       0
5189        5190       0    male  0.72    0.25        0        0       0

     private freepoor freerepat nchronic lchronic
0        yes       no         no       no       no
1        yes       no         no       no       no
2         no       no         no       no       no
3         no       no         no       no       no
4         no       no         no      yes       no
...      ...      ...        ...      ...      ...
5185      no       no         no       no       no
5186      no       no         no       no       no
5187      no       no        yes       no       no
5188      no       no         no       no       no
5189      no       no        yes       no       no

[5190 rows x 13 columns]
```

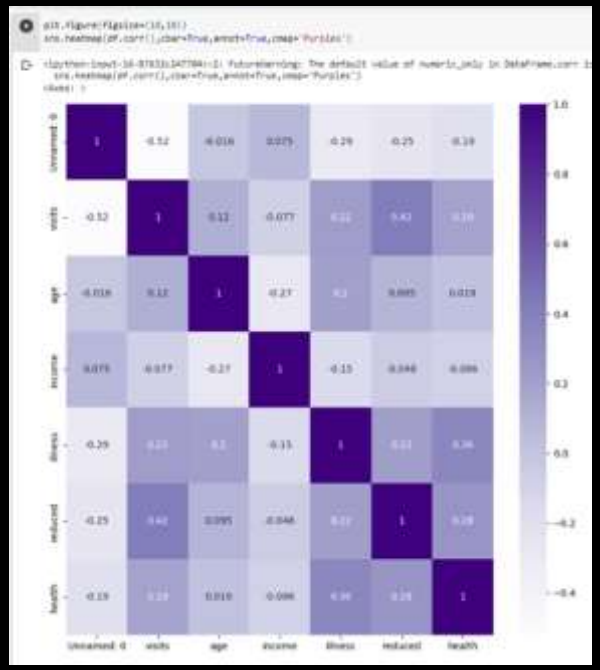
- ✓ **Reading the complete information about the columns of the dataset.**

```
df.info()
```

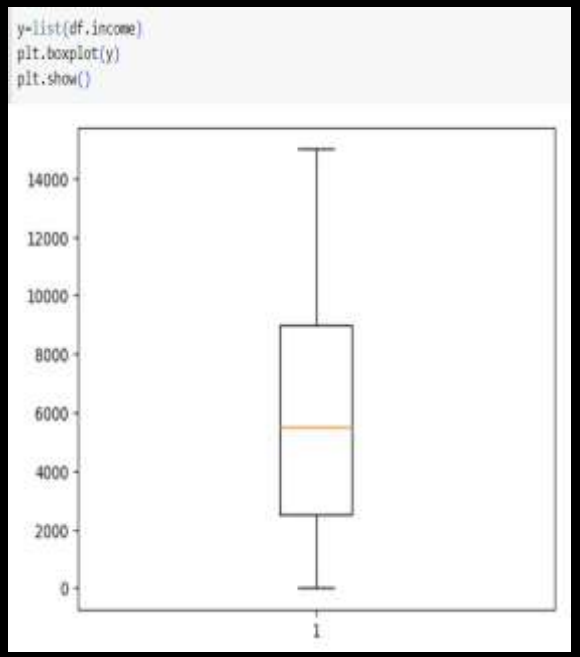
```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 5190 entries, 0 to 5189
Data columns (total 13 columns):
 #   Column      Non-Null Count  Dtype
---  ------      --------------  -----
 0   Unnamed: 0  5190 non-null   int64
 1   visits      5190 non-null   int64
 2   gender      5190 non-null   object
 3   age         5190 non-null   float64
 4   income      5190 non-null   float64
 5   illness     5190 non-null   int64
 6   reduced     5190 non-null   int64
 7   health      5190 non-null   int64
 8   private     5190 non-null   object
 9   freepoor    5190 non-null   object
 10  freerepat   5190 non-null   object
 11  nchronic    5190 non-null   object
 12  lchronic    5190 non-null   object
dtypes: float64(2), int64(5), object(6)
memory usage: 527.2+ KB
```

VISUALIZING DIFFERENT TYPES OF MODELS.

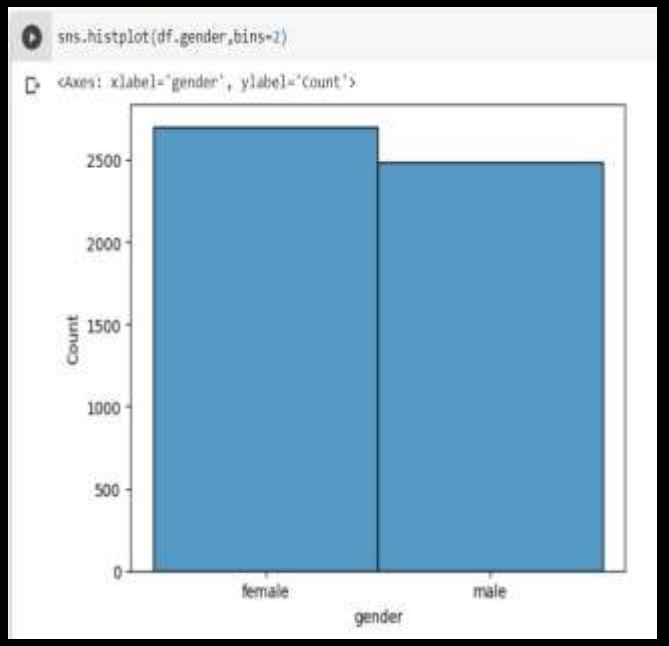
Heat map



Boxplot



Histogram



RESULTS

- Docter visit analysis can provide insights that inform policy-making, healthcare planning , and resource allocation.

- Docter visit analysis depend on the specific objectives , data , and analytical techniques employed.

- Analysis of medical conditions encountered during doctor visits can highlight the most prevalent conditions among patients . This information can assist in resource allocation , health care planning and different diseases predictions.

- The findings can support evidence-based decision-making , prioritize public health intiatives or identify areas for targeted interventions.

LINKS

https://colab.research.google.com/drive/1DDJD-3NLnYbYIfXDU0AVVheYuSP6oxHD?usp=sharing

THANK YOU