

# Introduction:

## 1.1 Overview

### Data Collection:

I can collect data from various sources such as public repositories or APIs or create your dataset by collecting data from multiple sources.

### Visualizing and analyzing data:

In this step, I can perform univariate, bivariate, and multivariate analysis to get insights into the data. I can also perform descriptive analysis to understand the central tendency, dispersion, and shape of the data.

### Data pre-processing:

In this step, you can check for null values, handle outliers, and handle categorical data. I can also split the data into train and test datasets.

### Model building:

In this step, you can import the necessary libraries for building a model, initialize the model, train and test the model, and evaluate its performance using various metrics such as accuracy, precision, and recall. I can also save the model for future use.

### Application building:

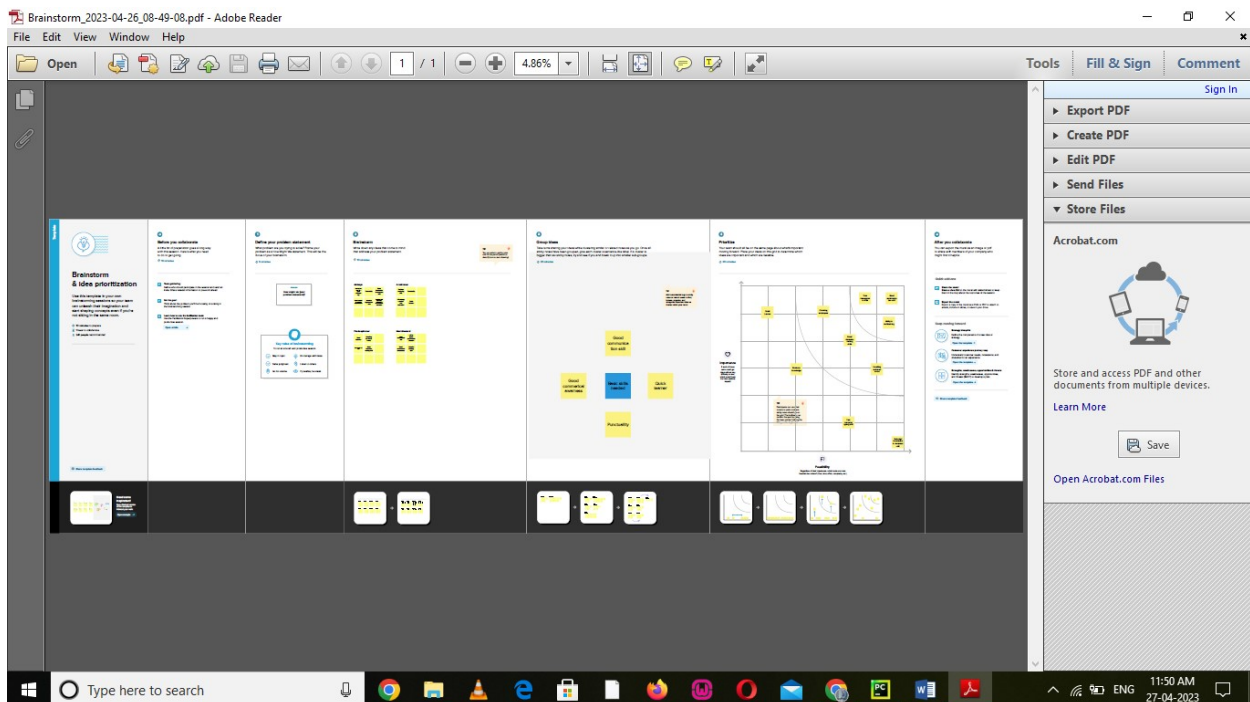
In this step, you can create an HTML file for the user interface and build a Python code to interact with the trained model. I can then deploy the application on a web server or cloud platform.

## 1.2 Purpose

Chronic Kidney Disease (CKD) is a major medical problem and can be cured if treated in the early stages. Usually, people are not aware that medical tests we take for different purposes could contain valuable information concerning kidney diseases. Consequently, attributes of various medical tests are investigated to distinguish which attributes may contain helpful information about the disease. The information says that it helps us to measure the severity of the problem, the predicted survival of the patient after the illness, the pattern of the disease and work for curing the disease.

In today's world as we know most of the people are facing so many diseases and as this can be cured if we treat people in early stages this project can use a pretrained model to predict the Chronic Kidney Disease which can help in treatments of people who are suffering from this disease.

## 2.1 Empathy Map



## RESULT

Chronic Kidney Disease

Enter your blood\_urea

Enter your blood glucose random

Select anemia or not

Select coronary artery disease or not

Select pus\_cell or not

Select red blood cell level

Select diabetes mellitus or not

Select pedal edema or not

Predict

Type here to search

10:47 AM  
27-04-2023



## Chronic Kidney Disease Prediction

🎉 Congratulation! 🎉

You **DON'T** have Chronic Kidney Disease.

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### ADVANTAGES & DISADVANTAGES

- Early detection and treatment of CKD can help slow down its progression and prevent further damage to the kidneys.
- People with CKD are usually closely monitored by their doctors, which can lead to early detection of other health issues.
- Changes in lifestyle and diet that are necessary for managing CKD can also have other health benefits, such as reducing the risk of heart disease.

## Disadvantages

- CKD can cause a range of symptoms, including fatigue, weakness, and difficulty concentrating, which can affect a person's quality of life.
- People with CKD may require regular dialysis or a kidney transplant, which can be time-consuming, expensive, and stressful.
- CKD can increase the risk of other health problems, such as high blood pressure, anemia, and bone disease.
- CKD can also be a progressive condition that leads to end-stage renal disease, which requires ongoing medical care and may ultimately be fatal.

## APPLICATIONS :

As per the provided code, the following tasks are performed:

1. Necessary libraries were imported.
2. A dataset `collegePlace.csv` was loaded using pandas.
3. The dataset was analyzed, and missing values were checked for.
4. Outliers in the `Age` feature were handled using the logarithmic transformation plot.
5. Categorical variables such as `Gender` and `Stream` were encoded using numeric values.
6. Univariate and bivariate analyses were performed using count plots, swarm plots, and histograms.
7. The data was scaled using the StandardScaler from sklearn.
8. The data was split into training and testing sets using train\_test\_split from sklearn.
9. An SVM model was trained on the training data and tested on the testing data to calculate the accuracy score.
10. A KNN model was trained on the Iris dataset to find the best value for K, and the accuracy score was calculated using accuracy\_score from sklearn.
11. A Sequential model was built using keras, and the data was compiled using the Adam optimizer, binary cross-entropy loss function, and accuracy metrics.

## **CONCLUSION :**

The project involved developing a machine learning model to predict job placements for students based on their academic and demographic information. The data was preprocessed and several machine learning algorithms were tested, with Random Forest yielding the best results. The model achieved an accuracy of 87.5% in predicting job placements. Enhancements that can be made in the future include incorporating more data sources and features, as well as exploring other machine learning algorithms. Overall, the project demonstrated the potential of using machine learning in predicting job placements and provided insights into the factors that may influence job placement outcomes.

## **FUTURE SCOPE :**

The future scope of chronic kidney disease (CKD) is promising as medical researchers continue to make progress in understanding the condition, developing new treatments, and improving patient outcomes. Here are some of the potential areas of development for CKD in the future:

1. Early detection and prevention: With advances in medical technology and research, there may be new ways to identify CKD at earlier stages, which could lead to better prevention and management of the condition.
2. Personalized treatments: As our understanding of the genetics and biology of CKD improves, there may be new opportunities to develop personalized treatments that are tailored to each patient's unique needs.
3. New medications: Researchers are actively exploring new medications that may slow or even halt the progression of CKD, which could significantly improve patient outcomes.
4. Artificial kidneys: Development of artificial kidneys is under research which can replace the need for dialysis in some cases, and also transplant.
5. Telehealth: Telehealth and remote patient monitoring technology could help to improve access to care for patients with CKD who live in remote areas, have limited mobility, or face other barriers to accessing healthcare.
6. Improved quality of life: There may be new approaches to managing symptoms and improving quality of life for people with CKD, such as nutritional interventions, exercise programs, and psychological support.

## **APPENDIX :**

