Problem Statement: AI - Platform to make career choices for every child at the Secondary Level

Team Name: Code Crafters

Team Leader Name: Priyam Pal

Team Mentor: Mr. Uddalok Sen

Institute Name: MCKV Institute of Engineering

YUKTI Innovation Challenge (YIC)

MoE's Innovation Cell

The Problem description and its relevance to today’s society

In today's world, where growing populations and limited job opportunities leave high school graduates struggling with career choices, problems like parental pressures often force students to pursue financially stable careers like engineering or medicine without considering their zone of interest, students lacking exposure to a wide range of career options, limiting their understanding of what's available etc occurs. The job market is evolving rapidly, and graduates may struggle to predict which fields will offer stable employment. Moreover, the pressure to excel academically and choose a career can lead to mental health issues like anxiety and depression.

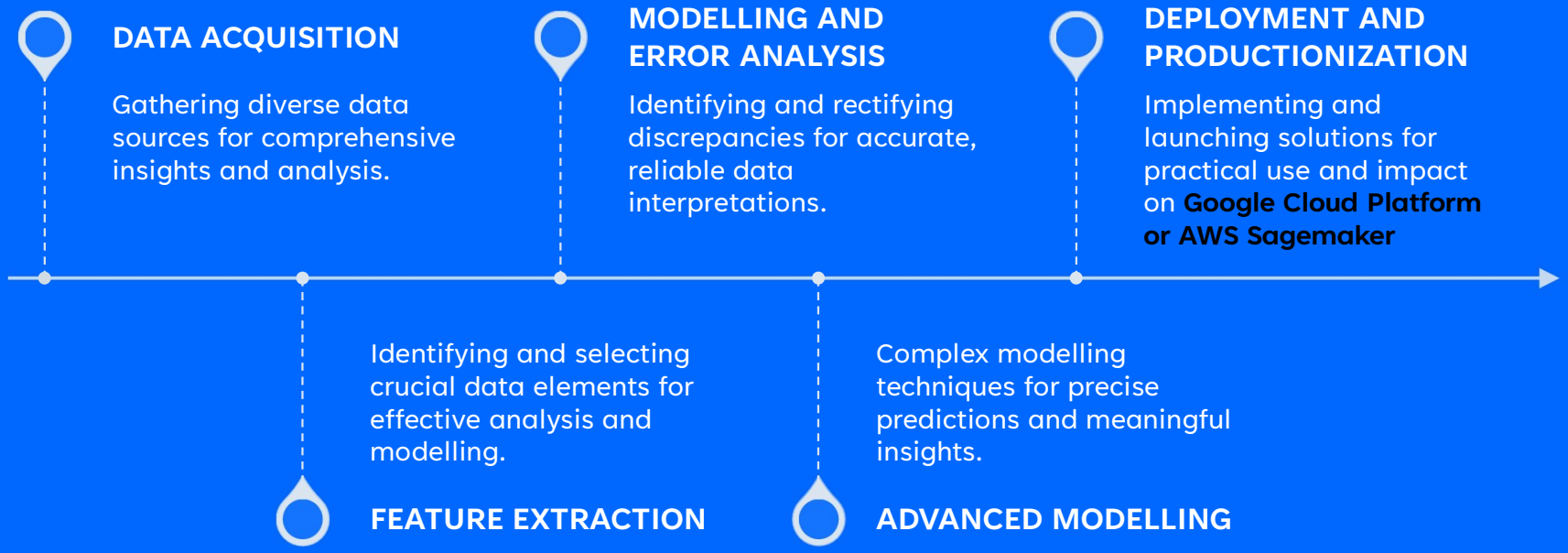
Describing the Solution Proposed

Our platform will use AI-based career guidance, easing this confusion. It will monitor students' mental well-being and provide training sessions for aptitude, technical etc, ensuring every student is guided towards their best-fit career. Moreover, our platform helps students choose the right textbooks by offering reviews and recommendations. This platform is committed to making career decisions easier, fostering mental health, and simplifying the path to academic success, all in one place.

Explaining the Uniqueness and Distinctive Features of our Service:

1. Wide range of career opportunities for students based on their stream and zone of interest.
2. Students will be provided with mental health counselling sessions.
3. Training related to aptitude, technical and other courses and ample exams will be conducted.
4. Online Tutorial will be offered according to User's Subject Matter
5. Review and recommendation of books will be offered.

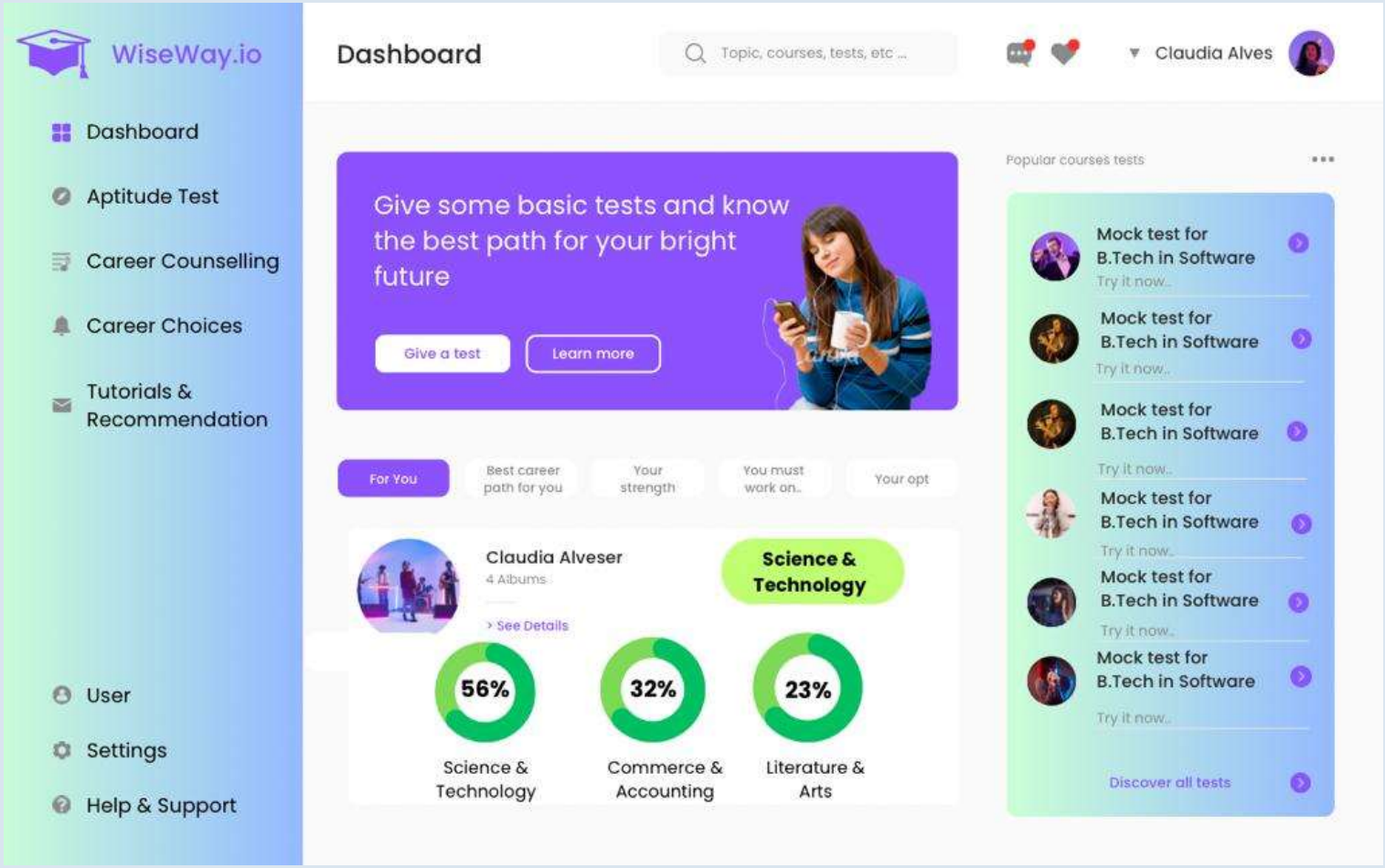
Pipeline:


DATA ACQUISITION
Gathering diverse data sources for comprehensive insights and analysis.
FEATURE EXTRACTION
Identifying and selecting crucial data elements for effective analysis and modelling.
MODELLING AND ERROR ANALYSIS
Identifying and rectifying discrepancies for accurate, reliable data interpretations.
ADVANCED MODELLING
Complex modelling techniques for precise predictions and meaningful insights.
DEPLOYMENT AND PRODUCTIONIZATION
Implementing and launching solutions for practical use and impact on Google Cloud Platform or AWS Sagemaker

Primary goals

Directing our youth to a right direction through WiseWay.io

Proposed UI of WiseWay.io:



Implementation of Features:

Predicting Students Marks on basis of their Study Hours:

```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
from sklearn.model_selection import train_test_split
from sklearn.linear_model import LinearRegression

print("All Modules Imported")
```

```
dataset = pd.read_csv("student_info.csv", header=0)
```

```
plt.figure(figsize = (16,9))
plt.scatter(dataset.study_hours, dataset.student_marks, color = 'g' )
plt.xlabel("Hours of Study")
plt.ylabel("Student marks")
plt.grid(True)  # Add grid to the plot
plt.show()
```

```
X_train, X_test, Y_train, Y_test = train_test_split(X,Y, test_size = 0.2, random_state = 51)
```

```
print("Shape of X_train : ", X_train.shape)
print("Shape of X_test : ", X_test.shape)
print("Shape of Y_train : ", Y_train.shape)
print("Shape of Y_test : ", X_test.shape)
```

```
lr = LinearRegression()

lr.fit(X_train,Y_train)
```

```
lr.predict([[8]])[0][0].round()
```

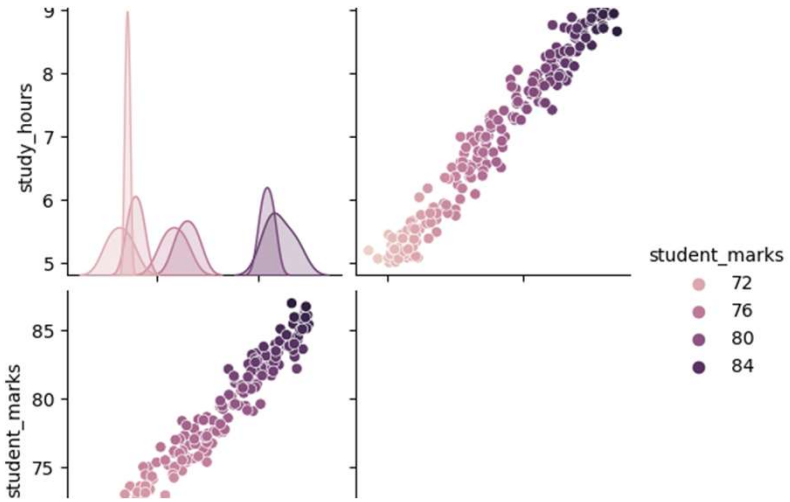
```
Y_pred = lr.predict(X_test)
Y_pred
```

```
lr.score(X_test, Y_test)
```

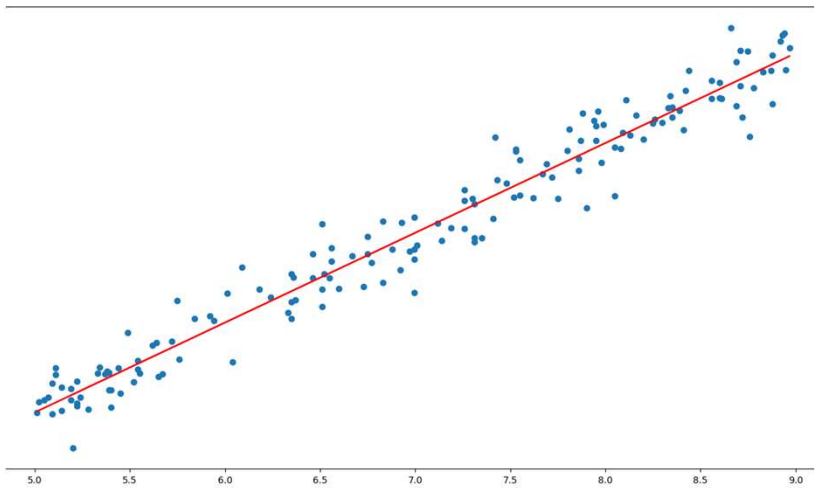
```
plt.figure(figsize = (16,9))
plt.scatter(X_train,Y_train)
plt.plot(X_train, lr.predict(X_train), color = 'r')
plt.show()
```

```
import pickle
# importing the library

filename = "Marks Prediction trained_model.pkl"
pickle.dump(lr, open(filename, 'wb'))
# saving file

```

Insights:

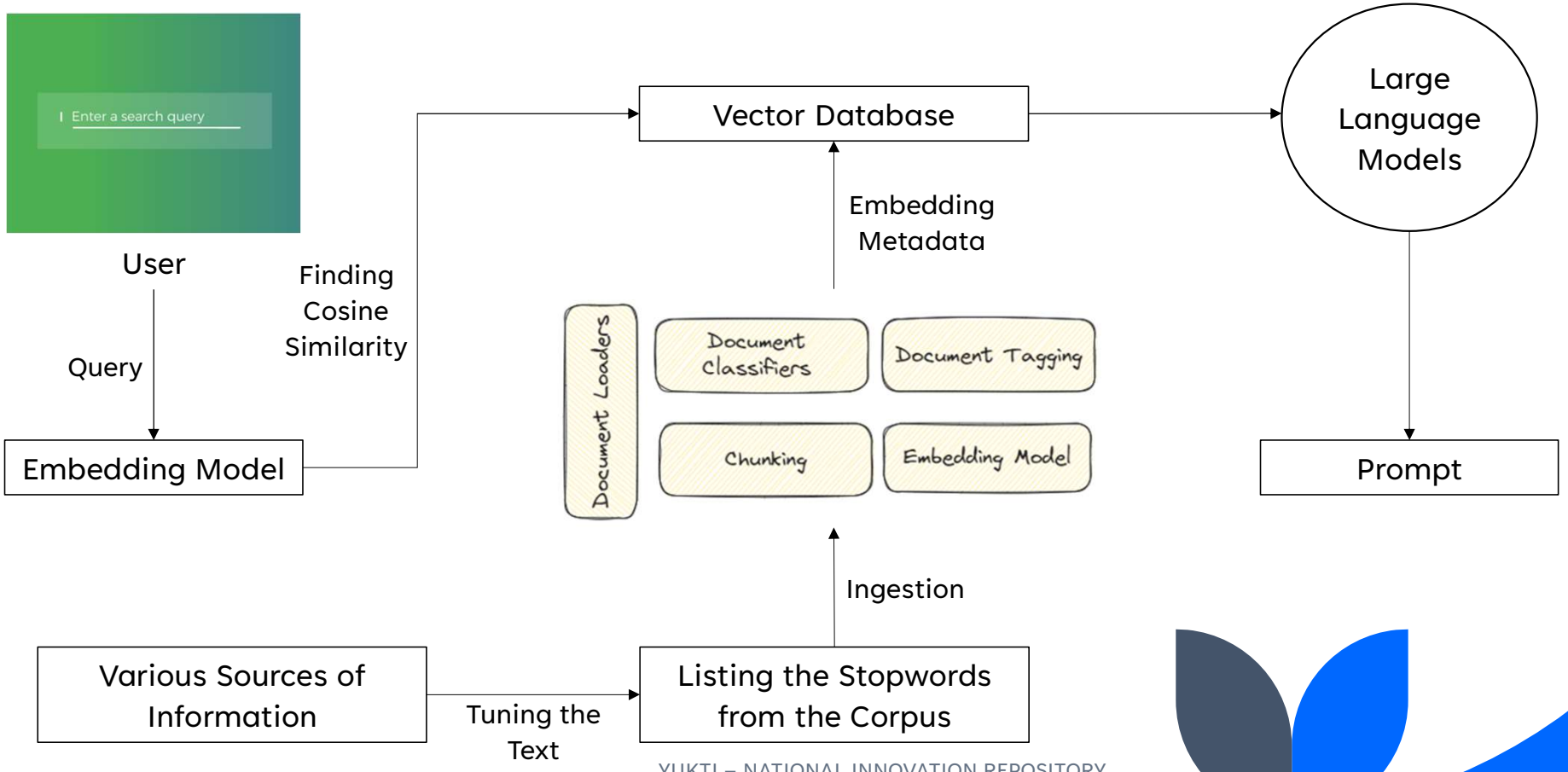


Visualization of the Dataset



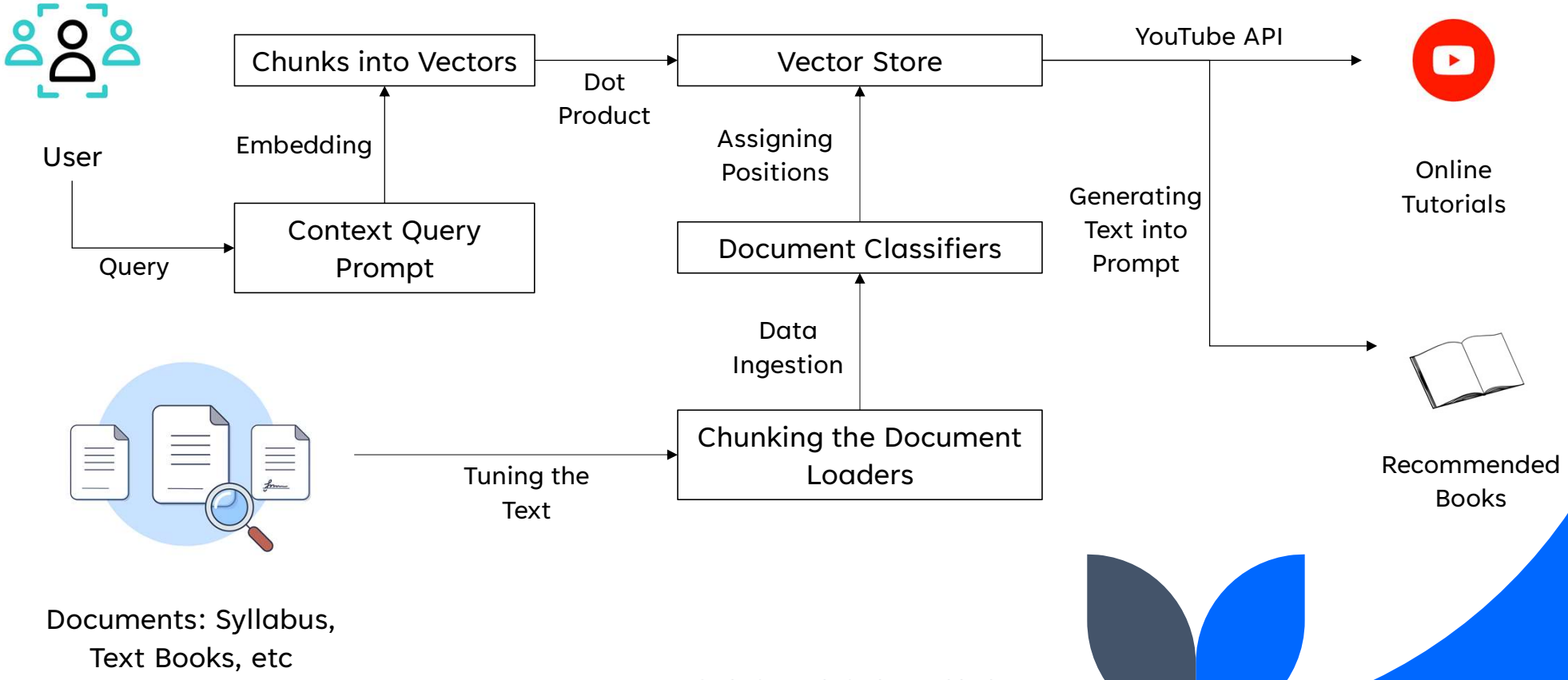
Prediction

Suggesting Career Choices on basis of their Zone of Interest and Marks:



Proposed Output:

Offering Students with Online Tutorials and Book Recommendations:



Documents: Syllabus, Text Books, etc

Meet our team:

Priyam Pal

Pursuing B.Tech in Artificial Intelligence and Machine Learning

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MENTOR:

Mr. Uddalok Sen

Assistant Professor(IT), MCKV Institute of Engineering
Expertise in Data Science, AI&ML, Blockchain
Domain Experience: 16+ Years

Thank you