Project Charter: [project name]

Intel® AI For Youth Bootcamp Batch 1

Information:

- Fill in the details as per the steps followed while making your project.
- Add as many details as possible, it may be helpful if you wish to file a patent.
- Add screenshots, dates, links, etc. wherever required.

Problem scoping

Background of the problem: [in around 200 words, explain the background of the problem. You can include the current scenario of what people are facing right now.]

As everyone knows that education is one of the most important things in life for everyone and not only children . In our country India , out of the total population around 17% of the population is below poverty line and many people below the poverty line are not able to afford the school fees for their children which mainly results in less overall school enrollment of the country . Now the main reason for poverty is the lack of education in our country which results in less employment too . Now as we can see that covid-19(pandamic virus)has shaken the whole world . Because of the virus the schools have been closed and everthing is commencing online . All the children who study in prvate schools are able to attend the online classes with the help of the gadgets . But this has resulted in major lack of education enrollment because the children who go to government school cannot afford any kind of gadget to attend the class .

Proposed solution: [what do you think can be done using AI to solve the problem? How will people benefit from it?]

Artificial Intelligence has helped the government schools a lot for better teaching methods . Many organisations have built AI models which help the teacher teach all the students properly . In rural areas of states most of the children dont know English so when the teacher is teaching then something in English , then the AI model instantly tells all the meanings of the english words in their regional languages which helps the students understand all the concepts easily . Now in rural areas here is a lack of teachers too , specially for higher grades because the teachers living in those areas dont have good qualification for higher teachings . So the organisations have built AI models which is capable of teaching some of the basics which can help students learn Now in future advanced AI models can be built for better education , like there can be a model which can conserve all the ideas of the students who live in rural areas and send their ideas to national agencies and the students can get opportunity to express their ideas in from of the world .

Reference links: [Add all the links that you have referred to, to find the problem, and the solution]

Sr. No.	Topic	Link
1	for understanding the problem	1)

		https://www.google.com/search?rlz=1C1SQJL_enIN907IN907&sxsrf=ALeKk01IhuNz5a_5ecQ_8_KpWRLqhOpOxQ%3A1610185841653&ei=cXz5X_qwJ5C8rQHe5pegAg&q=what+is+the+reason+behind+less+school+enrollment&oq=what+is+the+reason+behind+less+school+enrollment&gs_lcp=CgZwc3ktYWIQAzIHCCEQChCgAToHCCMQ6gIQJzoHCC4Q6gIQJzoECCMQJzoECAAQQzoFCC4QkQI6BwgAEMkDEEM6BQgAEJECOgIIADoHCC4QyQMQQzoICAAQyQMQkQI6BwgAEBQQhwI6CAgAELEDEIMBOgUIABCxAzoFCAAQyQM6CggAEMkDEBQQhwI6BwgAEMkDEAo6BAgAEAo6BwgAEMkDEA06BAgAEA06BggAEBYQHjoICCEQFhAdEB46BAghEAo6BQghEJIDOgQIIRAVOgUIIRCgAVDBwuIzWIK84zNgIL3jM2gDcAF4AYAB1wKIAZI5kgEIMC40Ny4xLjGYAQCgAQGqAQdnd3Mtd2l6sAEKwAEB&sclient=psy-ab&ved=0ahUKEwi6rfTYyY7uAhUQXisKHV7zBSQQ4dUDCA0&uact=5
2	for understanding the problem	https://www.google.com/search?rlz=1C1SQJL_enIN907IN907&sxsrf=ALeKk03FCSU5Kddtp8YQjS3_IDhjIsIO8g%3A1610295750600&ei=xin7X9WJJI_grQGWnZCoDw&q=what+is+the+reason+behind+poverty&oq=what+is+the+reason+behind+poverty&gs_lcp=CgZwc3ktYWIQAzIFCAAQyQMyBggAEBYQHjIGCAAQFhAeMgYIABAWEB4yBggAEBYQHjIGCAAQFhAeMgYIABAWEB4yBggAEBYQHjIGCAAQFhAeMgYIABAWEB46BwgjEOoCECc6BwguEOoCECc6BAgjECc6BAguEEM6BQgAEJECOgQIABBDOgoIABCxAxCDARBDOgIIADoICAAQsQMQgwE6CAgAEMkDEJECOgUILhCxAzoFCAAQsQM6BwgAEBQQhwI6CggAEMkDEBQQhwJQi9oHWJKICGDliAhoAXABeACAAZcBiAGYIZIBBDAuMzKYAQCgAQGqAQdnd3Mtd2l6sAEKwAEB&sclient=psy-ab&ved=0ahUKEwjVhMqR45HuAhUPcCsKHZYOBPUQ4dUDCA0&uact=5
3	for getting an idea about solution	https://economictimes.indiatimes.com/small-biz/startups/features/startups-turn-to-ai-improve-teaching-quality-at-government-run-schools/articleshow/71433816.cms?from=mdr

4 for getting an idea about the solution https://www.blog.epravesh.com/artificial-intelligence-ai-in-indian-classrooms-a-need-of-the-hour/

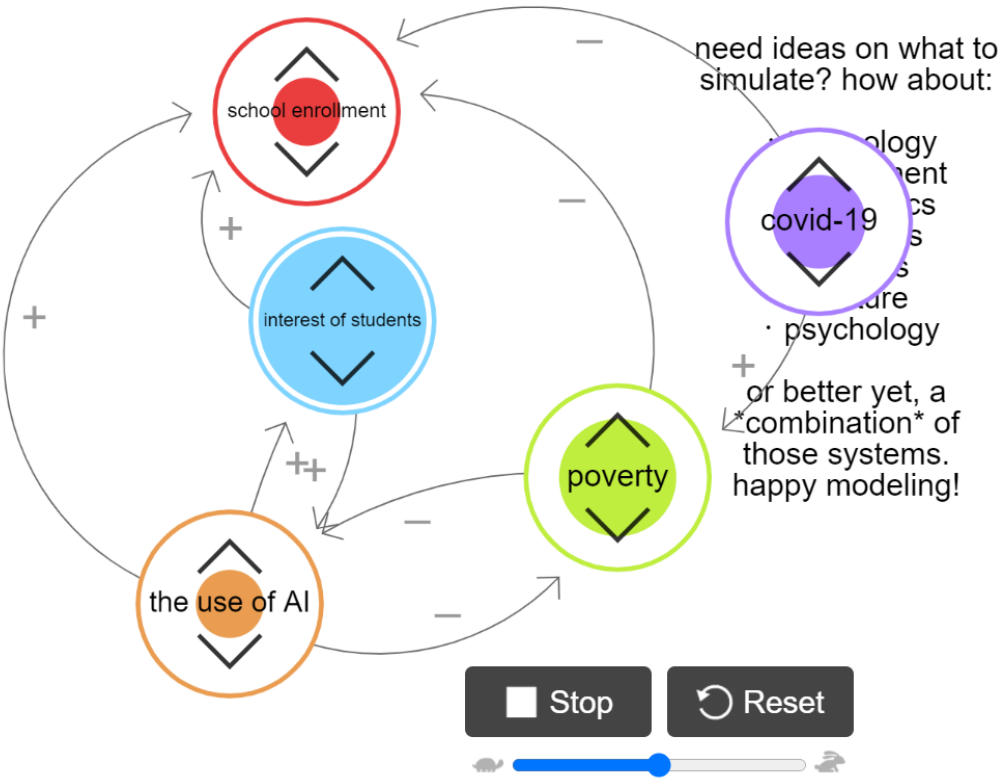
Data acquisition

Data features: [Enter all the data points that you need are important to achieve the solution]

All the data points - To find the solution for this problem we need a dataset which statistically shows the rate of school enrollment per year. We would also need the data of the number of years. We would need the data of indicator value which shows that the dataset is about school enrollment. Then we would finally need the values which show the number of children who enroll in shcool every year. Need info on covid-19 situation affecting the education Also the interest of the students to get educated and share ideas

System of data features: [Put a screenshot of the loopy of all the features in the problem system and elaborate the relation and connections]

In the system we can see all the factors affecting school enrollment- Due to covid-19 in the loopy if it increases then the school enrollment will decrease and the poverty will increase which will eventually result in less use of AI And when poverty increases , at that time again the use of AI will decrease which will decrease the enrollment rate and the cycle will continue Now when the use of AI increases the rate of enrollment will also increase and even the interest of students will increase and eventually this will decrease poverty When the interest of students increase , at that time the use of AI and enrollment rate will increase and reduce poverty as more ideas will develop to stop poverty



Reference links: [Add all the links that you have referred to for collecting the data and/or data features understanding]

Sr. No.	Topic	Link
1	for collecting the dataset	https://data.world/hdx/4c1042a0-e2b5-40dc-b543-ad72ad14c595/workspace/file?filename=combined-indicators-for-india-1.csv
2	for understanding the dataset	https://ncase.me/loopy/v1.1/?data=%5B%5B%5B6,264,165,0.33,%22school%2520enrollment%22,0%5D,%5B7,214,480,0.33,%22the%2520use%2520of%2520AI%22,1%5D,%5B8,464,399,0.66,%22poverty%22,3%5D,%5B9,593,235,0.5,%22covid-19%22,5%5D,%5B10,287,299,1,%22interest%2520of%2520students%22,4%5D%5D,%5B%5B7,6,170,1,0%5D,%5B8,7,-31,-1,0%5D,%5B8,6,-111,-1,0%5D,%5B9,8,39,1,0%5D,%5B9,6,-100,-1,0%5D,%5B7,8,-68,-1,0%5D,%5B10,6,79,1,0%5D,%5B10,7,38,1,0%5D%5D,%5B%5B611,275,%22need%2520ideas%2520on%2520what%2520to%250Asimulate%253F%2520how%2520about%253A%250A%250A%25E3%2583%25BBtechnology%250A%25E3%2583%25BBenvironment%250A%25E3%2583%25BBeconomics%250A%25E3%2583%25BBbusiness%250A%25E3%2583%25BBpolitics%250A%25E3%2583%25BBculture%250A%25E3%2583%25BBpsychology%250A%250Aor%2520better%2520yet%252C%2520a%250A*combination*%2520of%250Athose%2520systems.%250Ahappy%2520modeling!%22%5D%5D,10%5D

Data Exploration

Information about your data: [share info on the dataset that you have collected, like size, columns, etc.]

<class 'pandas.core.frame.DataFrame'>

RangeIndex: 48 entries, 0 to 47

Data columns (total 6 columns):

#	Column	Non-Null Count	Dtype
0	Country Name	48 non-null	object
1	Country	48 non-null	object
2	Year	48 non-null	int64

3 Indicator Name 48 non-null object

4 Value 48 non-null int64

5 Child Population 48 non-null int64

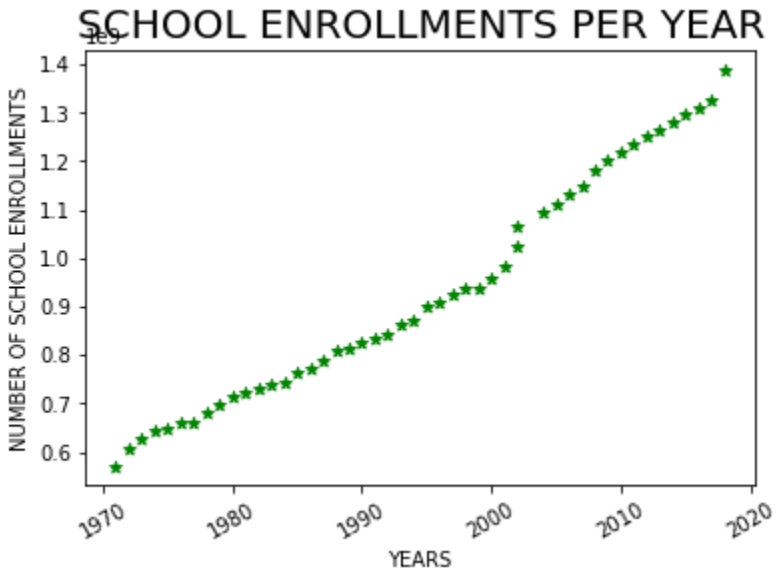
dtypes: int64(3), object(3)

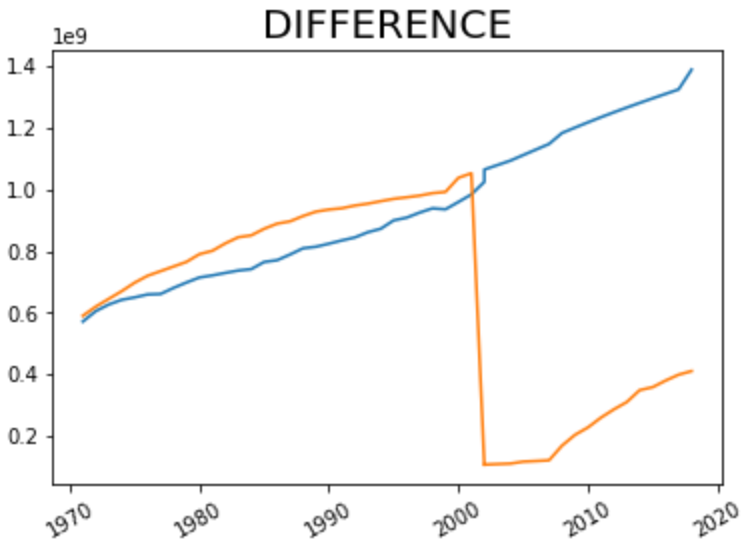
memory usage: 2.4+ KB

Data cleaning: [Share steps you followed to clean the dataset that you downloaded.]

no cleaning needed

Data visualization: [Share the graphs that you plotted to understand pattern in your data]





Important features: [After visualization, share all the data features which you think are important]

After data visualization we can clearly see that the most important features which we need for modelling and evaluation are the number of years , total child population and the number of school enrollments per year

Modeling

Model Selection: [Write the model that you chose for your project, and why]

For this dataset I would be using ANN(Artificial Neural Network) for modelling and predictions . I have chosen ANN because it is a better mode of modelling datasets and we can also get to know our accuracy in this type .

Model training: [What are the features that you trained your model with? What ratio did you keep for training, testing and validation data?

Now I have trained my model and for training this model , I used the 3 parameters (year , child population , value) and I only took 0.1 amount of data to test and rest 0.9 was used for training and validation data.Then I had also standardised my x_values .

Evaluation

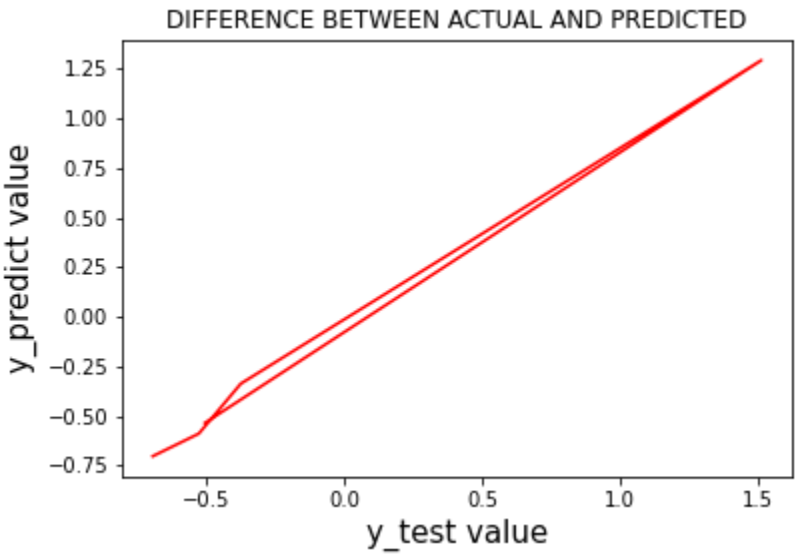
Model accuracy: [Share the accuracy of your model]

So as this is a regression problem so the loss at the end of the trained neural network was 0.0064
So the accuracy 100 - 0.64 = 99.36% (0.0064 would be equal to 0.64%)

Confusion Matrix and heatmap: [Share a screenshot of the matrix and heatmap. Elaborate the plots]

regression problem so confusion matrix and heatmap needed.

Instead of that line graph is plotted to see y_test and y_predict



Deployment

Deployment method: [Share how you are deploying the model, and how will the end-user use it]

So at the time of deployment I would be writing codes such that the end-user will have to type any school enrollment value and any year and the predicted number of school enrollments would appear for the entered year . The predicted number would depend on how the model is tested and trained , So if the accuracy after training is above 95% then the predicted number would be nearly correct.