DP EDUCATION

Coding School

AI and Machine Learning

ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

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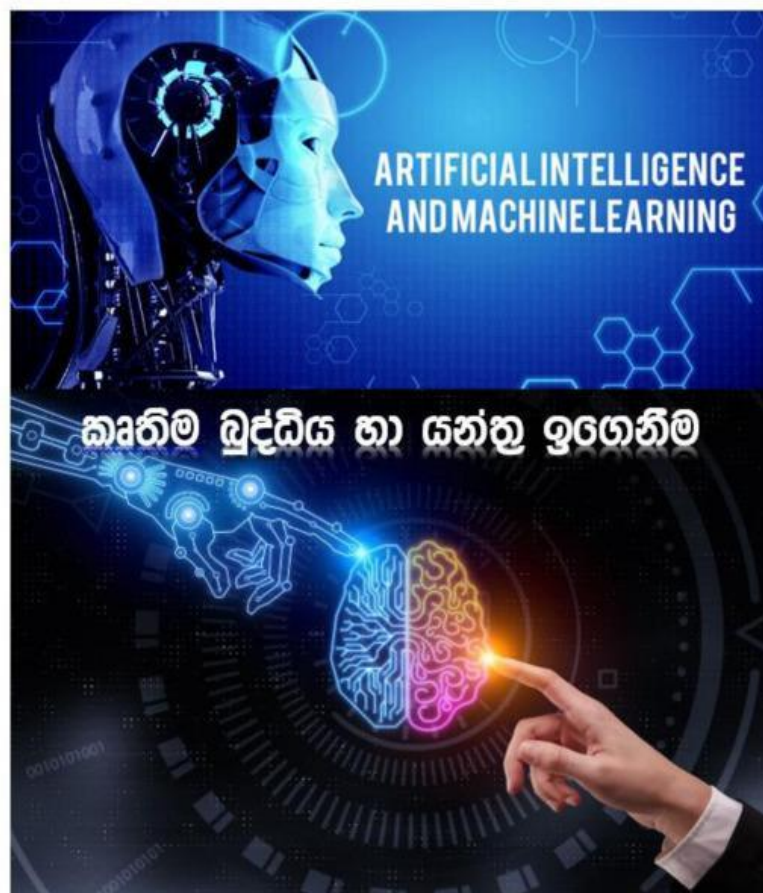
Start here

❖ In project 165, we taring an AI mode using AI Lab using a csv file prepared with data on the impact of cell phones on students' health.

❖ Using the google driver link below, download the csv file containing data on the impact of mobile phones on students' health to your computer.
https://drive.google.com/drive/folders/1Dwdpevr54RO2PZVwQTthZQKgU myQTKer?usp=sharing

	Names	Age	Gender	Mobile Ph	Mobile Op	Mobile phone use	Mobile ph	Helpful fo	Education	Daily usag	Performar	Usage dist	Attention	Useful features	Health Ris	Beneficial subject	Usage symptoms	Symptom frequency	Health precautions	Health rating
1																				
2	Ali	21-25	Male	Yes	Android	Sometimes	Social Mec	Yes	Education	4-6 hours	Agree	During Exe	Yes	Camera	Yes	Accounting	Headache	Never	Using Blue light filter	Excellent
3	Bilal	21-25	Male	Yes	Android	Sometimes	Social Mec	Yes	Education	4-6 hours	Neutral	During Exe	Yes	Notes Taking App	Yes	Browsing Material	All of these	Sometimes	Taking Break during prol	Good
4	Hammad	21-25	Male	Yes	IOS	Sometimes	All of thes	Yes	Education	4-6 hours	Strongly a	Not Distra	No	Camera	Yes	Browsing Material	All of these	Sometimes	None of Above	Excellent
5	Abdullah	21-25	Male	Yes	Android	Frequently	All of thes	Yes	Education	2-4 hours	Strongly a	During Cla	No	Internet Access	Only Parti	Reasarch		Never	Limiting Screen Time	Excellent
6	Waqar	21-25	Male	Yes	IOS	Frequently	All of thes	Yes	Education	>6 hours	Agree	While Stu	Yes	Internet Access	No	Browsing Material	Sleep disturbance	Sometimes	None of Above	Excellent
7	Aammar	21-25	Male	Yes	Android	Rarely	All of thes	Yes	Education	>6 hours	Neutral	Not Distra	Yes	Internet Access	Only Parti	Reasarch	Headache	Sometimes	None of Above	Good
8	Fatima	21-25	Female	Yes	IOS	Sometimes	All of thes	Yes	Study Plar	4-6 hours	Agree	Not Distra	Yes	Internet Access	No	Reasarch	Sleep disturbance	Sometimes	None of Above	Good
9	Jehanzaib	21-25	Male	Yes	Android	Rarely	All of thes	Yes	Education	2-4 hours	Strongly d	While Stu	Yes	Camera	Only Parti	Reasarch	Headache	Frequently	None of Above	Excellent
10	Shafiq	21-25	Male	Yes	Android	Sometimes	Social Mec	Yes	Study Plar	4-6 hours	Agree	During Cla	No	Internet Access	Only Parti	Reasarch	Sleep disturbance	Sometimes	None of Above	Good
11	Mubashir	21-25	Male	Yes	Android	Sometimes	All of thes	Yes	Education	2-4 hours	Agree	During Cla	Yes	Internet Access	Only Parti	Reasarch	Sleep disturbance	Sometimes	Limiting Screen Time	Good
12	Asad	21-25	Male	Yes	Android	Sometimes	All of thes	Yes	Education	4-6 hours	Agree	During Cla	Yes	Internet Access	Yes	Reasarch	Sleep disturbance	Sometimes	Limiting Screen Time	Good
13	Wasid	21-25	Male	Yes	IOS	Sometimes	Social Mec	Yes	Education	>6 hours	Neutral	During Cla	Yes	Internet Access	Yes	Accounting	Anxiety or Stress	Sometimes	Taking Break during prol	Excellent
14	Waqas	21-25	Male	Yes	Android	Frequently	Web-brow	Yes	Study Plar	2-4 hours	Agree	During Exe	Yes	Calculator	Yes	Reasarch	Headache	Never	Limiting Screen Time	Excellent
15	Aqsa	16-20	Female	Yes	Android	Sometimes	All of thes	Yes	Education	>6 hours	Neutral	While Stu	Yes	Internet Access	Only Parti	Browsing Material	All of these	Sometimes	Using Blue light filter	Fair
16	Saleem	21-25	Male	Yes	Android	Sometimes	Social Mec	Yes	Study Plar	2-4 hours	Agree	During Exe	Yes	Internet Access	Yes	Reasarch	Sleep disturbance	Sometimes	Limiting Screen Time	Excellent
17	Farhan	21-25	Male	Yes	Android	Rarely	All of thes	Yes	Education	2-4 hours	Agree	During Exe	Yes	Internet Access	Yes	Browsing Material	All of these	Sometimes	Limiting Screen Time	Good
18	Zeeshan	21-25	Male	Yes	Android	Frequently	All of thes	Yes	Productivi	>6 hours	Agree	Not Distra	No	Internet Access	Yes	Browsing Material	All of these	Sometimes	Using Blue light filter	Excellent

❖ Then you can use the following link to prepare an AI model that includes data on the effect of mobile phones on students' health. For that, use the following link to enter the AI lab and train an AI model.

https://studio.code.org/s/aiml-2024/lessons/16/levels/1

❖ When you click on that link, you will come to the 16th lesson of the AI course at code.org.

❖ Let's train an AI model with more accuracy by using the CSV file that includes the data on the effect of mobile phones on the health of the students given to you in this lesson series. Then let's save the AI model.

❖ By clicking on upload csv, select the csv file available in the google driver link we have given you and click on continue to upload that csv file.

Click onUpload CSV
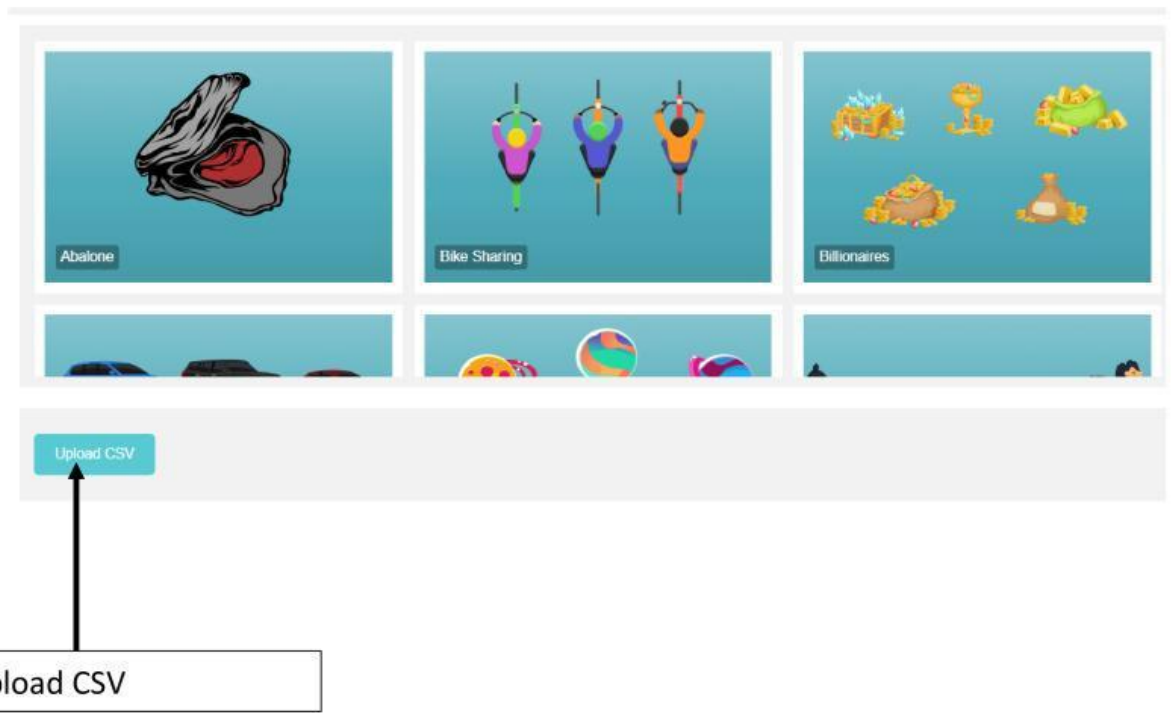
❖ Then a table containing data on the effect of cell phones on students'
health has been uploaded to your AI lab.
  - Here you have got a data set of 91 rows.
  - This data set was prepared by entering the details of phone usage of
    91 school students.
  - In this row, the description related to each student is shown.
  - This column shows the students' name, age, gender, operating
    system type of the phone, use of the phone for education, phone
    activities, does it help for education?, educational apps used, amount
    of use, health level, etc. The set is ready.
❖ Let's train an AI model with more accuracy using this data set.
❖ Below is how the table containing data on the effect of mobile phones on
students' health has been imported into the AI lab.

Predict ▮ based on ▮

Names	Age	Gender	Mobile Phone	Mobile Operating System	Mobile phone use for education	Mobile phone activities	Helpful for studyin
Ali	21-25	Male	Yes	Android	Sometimes	Social Media	Y
Bilal	21-25	Male	Yes	Android	Sometimes	Social Media	Y
Hammad	21-25	Male	Yes	IOS	Sometimes	All of these	Y
Waqar	21-25	Male	Yes	IOS	Frequently	All of these	Y
Aammar	21-25	Male	Yes	Android	Rarely	All of these	Y
Fatima	21-25	Female	Yes	IOS	Sometimes	All of these	Y
Jehanzaib	21-25	Male	Yes	Android	Rarely	All of these	Y
Shafiq	21-25	Male	Yes	Android	Sometimes	Social Media;All of these	Y
Mubashir	21-25	Male	Yes	Android	Sometimes	All of these	Y
Asad	21-25	Male	Yes	Android	Sometimes	All of these	Y
Wasid	21-25	Male	Yes	IOS	Sometimes	Social Media	Y
Waqas	21-25	Male	Yes	Android	Frequently	Web-browsing	Y
Aqsa	16-20	Female	Yes	Android	Sometimes	All of these	Y
Saleem	21-25	Male	Yes	Android	Sometimes	Social Media;Web-browsing;Messaging;All of these	Y

❖ First we have to select the column related to predict here.
❖ Here we are creating an app to see how mobile phones affect students' health, so let's select the Health rating column.

Predict ▮ based on ▮

al features	Health Risks	Beneficial subject	Usage symptoms	Symptom frequency	Health precautions	Health rating
Camera	Yes	Accounting	Headache	Never	Using Blue light filter	Excellent
s Taking App	Yes	Browsing Material	All of these	Sometimes	Taking Break during prolonged use	Good
Camera	Yes	Browsing Material	All of these	Sometimes	None of Above	Excellent
ternet Access	No	Browsing Material	Sleep disturbance	Sometimes	None of Above	Excellent
ternet Access	Only Partially	Reasearch	Headache	Sometimes	None of Above	Good
ternet Access	No	Reasearch	Sleep disturbance	Sometimes	None of Above	Good
Camera	Only Partially	Reasearch	Headache	Frequently	None of Above	Excellent
ternet Access	Only Partially	Reasearch	Sleep disturbance	Sometimes	None of Above	Excellent
ternet Access	Only Partially	Reasearch	Sleep disturbance	Sometimes	Limiting Screen Time	Good
ternet Access	Yes	Reasearch	Sleep disturbance	Sometimes	Limiting Screen Time	Good
ternet Access	Yes	Accounting	Anxiety or Stress	Sometimes	Taking Break during prolonged use	Excellent
Calculator	Yes	Reasearch	Headache	Never	Limiting Screen Time	Excellent
ternet Access	Only Partially	Browsing Material	All of these	Sometimes	Using Blue light filter	Fair
ternet Access	Yes	Reasearch	Sleep disturbance	Sometimes	Limiting Screen Time	Excellent

❖ Now click on continue button.
❖ Now let's taring an AI model by selecting the other columns required to predict the health rating as below.
❖ Use the column Age, Gender, Mobile phone use for education, Mobile phone activities, Daily usages, Performance impact, Health precautions.

Predict **Health rating** based on **Age** ⊗ , **Gender** ⊗ , **Mobile phone use for education** ⊗ , **Mobile phone activities** ⊗ , **Daily usages** ⊗ , **Performance impact** ⊗ , **Health precautions** ⊗

...oan	Useful features	Health Risks	Beneficial subject		Usage symptoms	Symptom frequency	Health precautions	He...
Yes	Camera	Yes	Accounting		Headache	Never	Using Blue light filter	
Yes	Notes Taking App	Yes	Browsing Material		All of these	Sometimes	Taking Break during prolonged use	
No	Camera	Yes	Browsing Material		All of these	Sometimes	None of Above	
Yes	Internet Access	No	Browsing Material		Sleep disturbance	Sometimes	None of Above	
Yes	Internet Access	Only Partially	Reasarch		Headache	Sometimes	None of Above	
Yes	Internet Access	No	Reasarch		Sleep disturbance	Sometimes	None of Above	
Yes	Camera	Only Partially	Reasarch		Headache	Frequently	None of Above	
No	Internet Access	Only Partially	Reasarch		Sleep disturbance	Sometimes	None of Above	
Yes	Internet Access	Only Partially	Reasarch		Sleep disturbance	Sometimes	Limiting Screen Time	
Yes	Internet Access	Yes	Reasarch		Sleep disturbance	Sometimes	Limiting Screen Time	
Yes	Internet Access	Yes	Accounting		Anxiety or Stress	Sometimes	Taking Break during prolonged use	
Yes	Calculator	Yes	Reasarch		Headache	Never	Limiting Screen Time	
Yes	Internet Access	Only Partially	Browsing Material		All of these	Sometimes	Using Blue light filter	

There are 91 rows of data.

❖ Train this AI model by clicking on Train button.
❖ Click on Continue button. Click on Continue button again.

Result

Accuracy

Predict **Health rating** based on **Age** , **Gender** , **Mobile phone use for education** , 70.00%   [Details]
Mobile phone activities , **Daily usages** , **Performance impact** ,
Health precautions

❖ The accuracy of the AI model you have trained has been 70%.
❖ This AI model can monitor the status of the health rating. For that, the status of the health rating can be found when you provide your age limit, gender etc. data.
❖ Then save this AI model as stu_Health_Rating.

Predict **Health rating** based on **Age** , **Gender** , **Mobile phone use for education** ,
Mobile phone activities , **Daily usages** , **Performance impact** , **Health precautions**

Model name (required)
[stu_Health_Rating]

Intended Use
Describe the problem you think this model could help solve, or one potential app someone could make with this model.

❖ Below is the popup window related to the AI model saved as stu_Health_Rating. All details about the stu_Health_Rating model appear here.

stu_Health_Rating

Accuracy
70.00%   ← 1

Intended Use

Limitations and Warnings

About the Data
Dataset size
91 rows   ← 2

Features and Label
Predict Health rating based on Age, Gender , Mobile phone use for education, Mobile phone activities, Daily usages, Performance impact, Health precautions   ← 3

Label
Health rating   ← 4

Possible Values
Excellent Good Fair Good;Fair Excellent;Good Poor Excellent;Good;Fair;Poor

Features
Age

Possible Values
21-25 16-20 26-30 31-35

Gender

Possible Values
Male Female

Mobile phone use for education

Possible Values
Sometimes Frequently Rarely Never

Mobile phone activities

Possible Values
Social Media All of these Social Media;All of these Web-browsing Social Media;Web-browsing;Messaging;All of these Messaging Social Media;Messaging

Daily usages   ← 5

Possible Values
4-6 hours > 6 hours 2-4 hours < 2 hours

Performance impact

Possible Values
Agree Neutral Strongly agree Strongly disagree Disagree

Health precautions

Possible Values
Using Blue light filter Taking Break during prolonged use None of Above Limiting Screen Time

❖ Let's study the details of the stu_Health_Rating model that appears in the named sections of the above popup window.

1 → This makes it clear that the accuracy of the stu_Health_Rating model is 70%. That is, the accuracy of the information obtained from this model is about 70%.

2 → This shows that 91 rows of data have been used to train the stu_Health_Rating model.

3 → The health rating is predicted by the stu_Health_Rating model. This shows that the Health rating is predicted based on Age, Gender, Mobile phone use for education, Mobile phone activities, Daily usages, Performance impact, Health precautions etc.

4 → Here is a description of the health rating predicted by the stu_Health_Rating model. Health rating can be known as health rating. It means the health status of children who use mobile phones. The description of the health rating is shown here as the predicted value

- Excellent
- Good
- Fair
- Good;Fair
- Excellent;Good
- Poor

etc. is predicted.

Here is a description of the factors affecting health rating by the stu_Health_Rating model. When predicting a description of health rating, it is based on factors like Age, Gender, Mobile phone use for education, Mobile phone activities, Daily usages, Performance impact, Health precautions etc.

5 →

- • Age has the values of 16-20, 21-25, 26-30, 31-35.
- • Gender has the values of Male and Female.
- • Mobile phone use for education has the values of Sometimes, Frequently, Rarely, Never.
- • Social media in mobile phone activities, All of these, social media; Web-browsing, Messaging; All of these values exist.
- • Daily usages have values of 4-6 hours, 2-4 hours, > 6 hours, < 2 hours.
- • Performance impact has the values of Agree, Neutral, Strongly Agree, Disagree.
- • In health precautions, there are values of Using Blue light filter, Taking Break during prolonged use, None of Above, Limiting Screen Time.

You have learned how to train an AI model and save it using Project 164.