

# STUDENT DETAILS



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College state : Tamilnadu

Internship Domain : Artificial Intelligence

Internship start date : 12-06-2023

Internship end date : 24-07-2023

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**MENTAL**

**FITNESS**

**TRACKER**

# MENTAL FITNESS TRACKER :

- The Mental Fitness Tracker is a powerful tool designed to help people improve their mental health. Mental health means a state of mind in which the person understands his/her own abilities and disabilities, but mental health will be mental illness, and it can affect our whole life. Because of mental person's relationship, their work environment and others also get influenced. We needed to express our emotions. Example of mental health issues like anxiety disorder, emotional disorder, bipolar affective disorder, depression, Eating disorder, etc.
- During pandemics in recent years because of strict lockdown we had to stay in home. We had a lot of time as we had nothing to do, people keep thinking about various stuff and because of over thinking, frustration , less confidence we get annoyed / angry . Isolation, jobless , loss of money and many more thoughts revolves in our mind and that impacts our mental health. Many peoples became drug and alcoholic addicted.



Peoples can't speak about their mental health openly .

They have fear that anyone will judge them and tease them.

- ❑ Mental Fitness is the idea that we can be more positive and preventative in how we approach our mental health and wellbeing
- ❑ For example, imagine you are preparing for an important presentation at work. If you have good mental fitness, you will be able to manage your stress levels, stay focused on your goals, and adapt to unexpected changes in the presentation. On the other hand, if you have poor mental fitness, you may feel overwhelmed, anxious, and unable to perform at your best.



# AGENDA :

- Mental fitness is a crucial component of overall health and wellbeing. It involves developing and maintaining the skills and habits necessary to manage stress, cope with challenges, and maintain a positive outlook on life.
- In today's fast-paced world, it can be easy to overlook the importance of mental fitness. However, by prioritizing this aspect of our health, we can improve our overall quality of life and achieve greater success in both our personal and professional lives.





# PROJECT OVERVIEW :

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- Our mental fitness project is designed to help individuals improve their overall well-being by focusing on their mental health. Through a combination of mindfulness exercises, cognitive-behavioral therapy techniques, and personalized goal-setting, our project empowers users to take control of their mental health and achieve their full potential.
- It is to create a user-friendly platform that is accessible to everyone, regardless of their level of experience with mental health tools. We believe that mental fitness is just as important as physical fitness, and we are committed to helping people prioritize their mental health in the same way they prioritize their physical health.

# REGRESSION ALGORITHMS USED:

- Ridge Regression
- Lasso Regression
- Elastic net Regression
- Polynomial Regression
- Decision tree Regression
- Random forest Regression
- K-NN Regression
- Bayesian Regression
- Neural Network Regression
- Gradient Boosting Regression



# THE END USERS:

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- The end users of mental fitness project are individuals who want to prioritize their mental health and improve their overall well-being. This includes people who may be experiencing stress, anxiety, or other mental health challenges, as well as those who simply want to maintain good mental fitness.
- The designed project with a user-centered approach, taking into account the unique needs and preferences of our target audience. The goal is to provide a tool that is accessible, easy to use, and effective in improving mental fitness.



# SOLUTION AND ITS VALUE PROPOSITION:

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- The solution is a comprehensive mental fitness program that includes personalized coaching, goal-setting tools, and a variety of exercises to improve mood, focus, and overall well-being. We understand that each individual's journey towards mental health is unique, which is why the program is tailored to meet the specific needs and goals of each user.
- The value proposition lies in our ability to provide users with the tools and support they need to make meaningful progress towards their mental health goals. By offering personalized coaching and a wide range of exercises and resources, empower users to take control of their mental fitness and achieve lasting results.

# CUSTOMIZATION OF PROJECT:

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- We wanted to create a mental fitness project that was unique and personalized and started by researching the different approaches to mental fitness and identifying the gaps in the market. From there, developed a plan that incorporated own experiences and values. One of the ways to customized the project was by incorporating mindfulness practices, which is found to be particularly effective in improving mental wellness.
- And also wanted to ensure that the project was accessible to a wide range of users, so made sure to incorporate features that catered to different needs and preferences. And included audio guides for those who prefer to listen rather than read, and we made sure the interface was user-friendly and intuitive.



# MODELLING OF MENTAL FITNESS:

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- Mental fitness can be model as a combination of various factors, including emotional regulation, cognitive flexibility, and social connectedness. Each of these factors plays a critical role in shaping our mental health and well-being.
- Emotional regulation involves the ability to manage our emotions effectively, such as by recognizing and expressing them appropriately. Cognitive flexibility refers to our capacity to adapt our thinking and behaviour to changing circumstances. Social connectedness, on the other hand, involves the quality and quantity of our relationships with others, which can have a profound impact on our mental health.

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(68400, (6840, 10))

```
[ ] data.set_axis(['Country', 'Year', 'Schizophrenia', 'Bipolar_disorder', 'Eating_disorder', 'Anxiety', 'Drug_usage', 'Depression', 'Alcohol', 'Mental_f'])
```

data.head(10)

	Country	Year	Schizophrenia	Bipolar_disorder	Eating_disorder	Anxiety	Drug_usage	Depression	Alcohol	Mental_fitness
0	Afghanistan	1990	0.228979	0.721207	0.131001	4.835127	0.454202	5.125291	0.444036	1.696670
1	Afghanistan	1991	0.228120	0.719952	0.126395	4.821765	0.447112	5.116306	0.444250	1.734281
2	Afghanistan	1992	0.227328	0.718418	0.121832	4.801434	0.441190	5.106558	0.445501	1.791189
3	Afghanistan	1993	0.226468	0.7117452	0.117942	4.789363	0.435581	5.100328	0.445958	1.776779
4	Afghanistan	1994	0.225567	0.717012	0.114547	4.784923	0.431822	5.099424	0.445779	1.712986
5	Afghanistan	1995	0.224713	0.716686	0.111129	4.780851	0.428578	5.098495	0.445422	1.738272
6	Afghanistan	1996	0.223690	0.716388	0.107786	4.777272	0.426393	5.100580	0.444837	1.778098
7	Afghanistan	1997	0.222424	0.716143	0.103931	4.775242	0.423720	5.105474	0.443938	1.781815
8	Afghanistan	1998	0.221129	0.716139	0.100343	4.777377	0.422491	5.113707	0.442665	1.720402
9	Afghanistan	1999	0.220065	0.716123	0.097046	4.782067	0.421215	5.120490	0.441478	1.800088

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```
rf = RandomForestRegressor()
rf.fit(xtrain, ytrain)
ytrain_pred=rf.predict(xtrain)
mse= mean_squared_error(ytrain, ytrain_pred)
rmse=(np.sqrt(mean_squared_error(ytrain, ytrain_pred)))
r2=r2_score(ytrain, ytrain_pred)
print("The Random Forest Regression for the train set")
print("-----")
print("MSE is {}".format(mse))
print("RMSE is {}".format(rmse))
print("R2 score is {}".format(r2))
```

The Random Forest Regression for the train set

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MSE is 0.005009690006029549

RMSE is 0.07077916364319056

R2 score is 0.9990676823387049

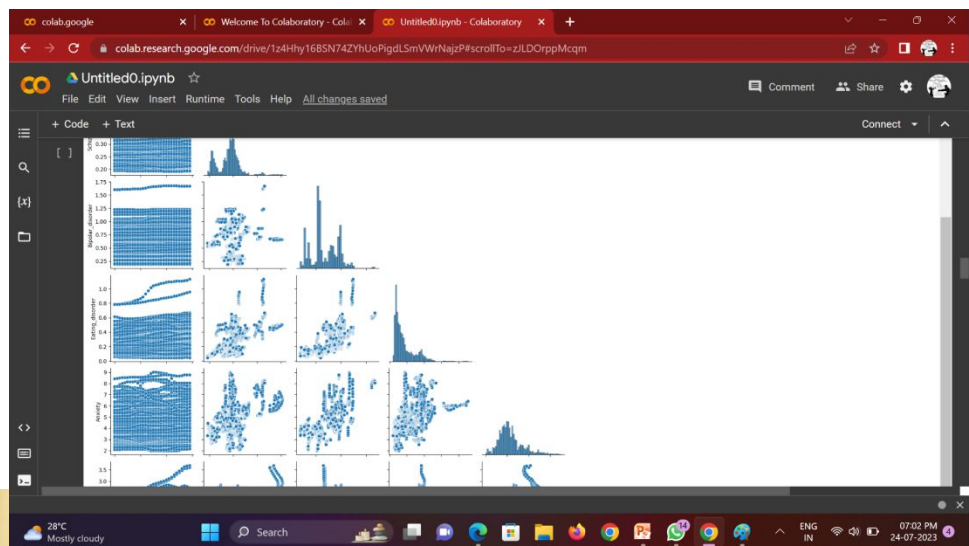
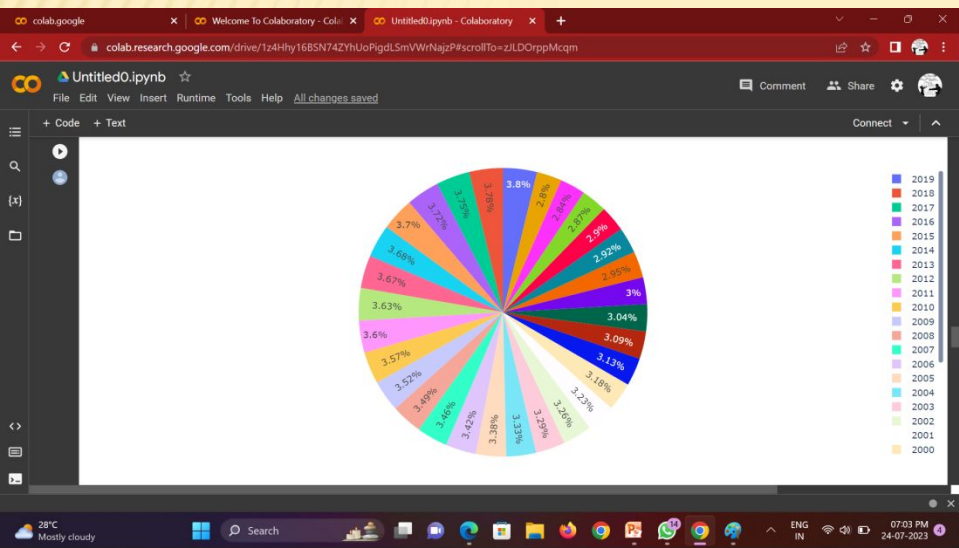
```
[ ] ytest_pred=lr.predict(xtest)
mse= mean_squared_error(ytest, ytest_pred)
rmse=(np.sqrt(mean_squared_error(ytest, ytest_pred)))
r2=r2_score(ytest, ytest_pred)
print("The Linear Regression model for test set")
print("-----")
```

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# CONCLUSION :

□ In conclusion, mental fitness is an essential aspect of overall health and well-being. By prioritizing our mental health, we can experience improved mood, better focus, and increased resilience. However, we also face challenges such as stress, anxiety, and lack of motivation that can make it difficult to maintain good mental health.

□ That's why to introduce the Mental Fitness Tracker, a tool designed to help people improve their mental fitness by tracking their progress and providing personalized recommendations. With this tool, each individual person to take control of their mental health and prioritize their well-being.





LINK:

<https://colab.research.google.com/#scrollTo=ruRfKAREJgF6>

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