Research Based study to achieve SDG 4 : Quality Education

The Department of Education, Government of India, is actively investigating the underlying factors influencing student performance, a crucial endeavor aligned with UN Sustainable Development Goal 4 - Quality Education. Having conducted an extensive survey, the government meticulously collected comprehensive data from schools, emphasizing an in-depth analysis of various socio-economic factors within families. This dataset encapsulates crucial insights into the nuanced elements impacting educational outcomes. **This research initiative, by dissecting socio-economic influences on student performance and democratizing accessible insights, empowers policymakers and educators to implement targeted interventions, fostering inclusive,equitable education and societal advancement in line with UN Sustainable Development Goal 4.**

Your university is at the forefront of this initiative, tasked with utilizing advanced analytics and machine learning to unravel patterns within this rich dataset. A key requirement is ensuring that the insights and recommendations developed by participants are accessible to the wider public. Your role is not just to provide technical solutions but to bridge the gap, making these valuable insights easily understandable and usable by the general public, thus contributing significantly to the democratization of education data and aligning with the principles of SDG 4. Therefore, a prototype that shows various insights and the usage of predictive models is expected from the government.

Evaluation Criteria :

- Approach to solve the problem - maximum of three pages.

- Findings and analysis made from available data.

- Best predictive model selected based on experimentation, along with justifications and performance evaluation.

- Present the findings of the study through an interface and make use of the model for estimating student performance based on various factors, that is convenient to an end user.

- Standard and professionalism of work in terms of documentation, work, organization and presentation.

Dataset:

Attached separately in the google classroom. Participants should use only the provided dataset.

Key Question :

- Do all the features available in the dataset really affect the Quality of Education? What are the predicting variables actually affecting the Quality of Education?
- How does a student's social life affect the quality of education?
- What is the impact of parents' jobs on the student's education?
- Does Quality of education have a positive or negative relationship with consuming alcohol?

Good to have:

1) Add code description in jupyter notebook

2) Try models with different algorithms

3) Compare models

4) Select final model for prediction

5) Simple UI to demo your results