INSIGHT ed HUB

Blue Horns

INTRODUCTION

The Government of India, in pursuit of UN Sustainable Development Goal 4, investigates student performance factors using extensive socio-economic data. Our university leads this initiative, employing advanced analytics to derive insights accessible to policymakers. The prototype aims to democratize education data, facilitating inclusive interventions for societal progress and aligning with SDG 4 principles.

Objectives

Identify Significant Features:

- Evaluate the relevance of all dataset features in influencing the quality of education.
- Determine which features have a significant impact on educational outcomes.

Examine Social Life Influence:

- Investigate the correlation between a student's social life and the quality of education.
- Explore how extracurricular activities, friendships, and social interactions impact academic performance.

Assess Parents' Job Impact:

- Analyze the influence of parents' occupations on their child's education.
- Investigate how the nature of parental employment affects a student's academic achievements.

Explore Alcohol Consumption Relationship:

- Examine the relationship between alcohol consumption and the quality of education.
- Investigate whether there is a positive or negative correlation and assess the potential impact on academic performance.

01 ANNOUNCEMENTS

OBJECTIVES

01 **ANNOUNCEMENT**
Here you could describe the topic of the section

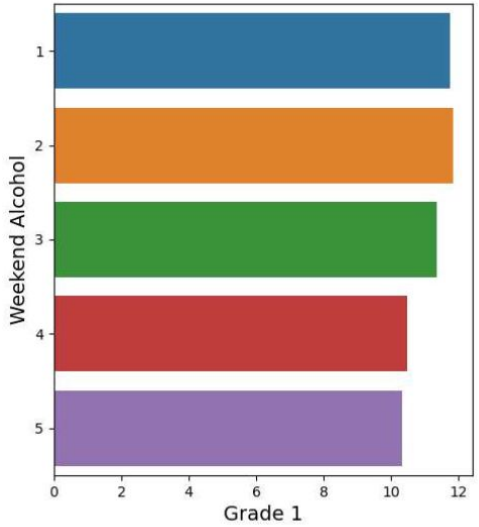
02 **IN DEPTH**
Here you could describe the topic of the section

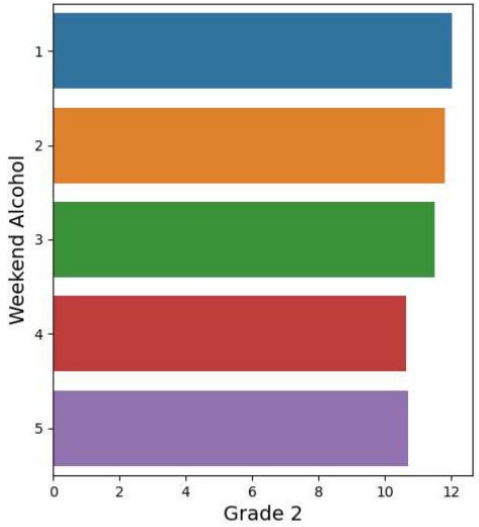
03 **IN BRIEF**
Here you could describe the topic of the section

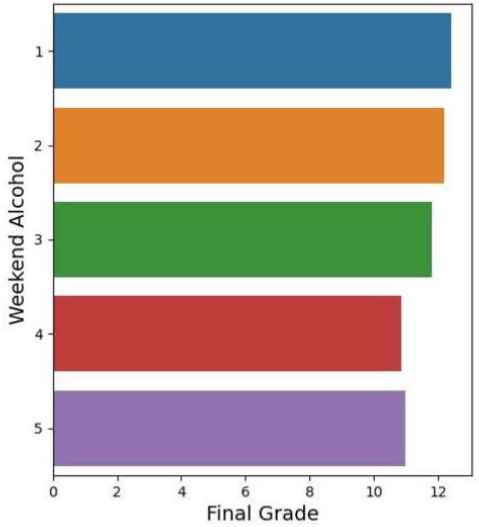
04 **WELCOME!**
Here you could describe the topic of the section

05 **EVENTS**
Here you could describe the topic of the section

Effect of Alcohol(Weekend)

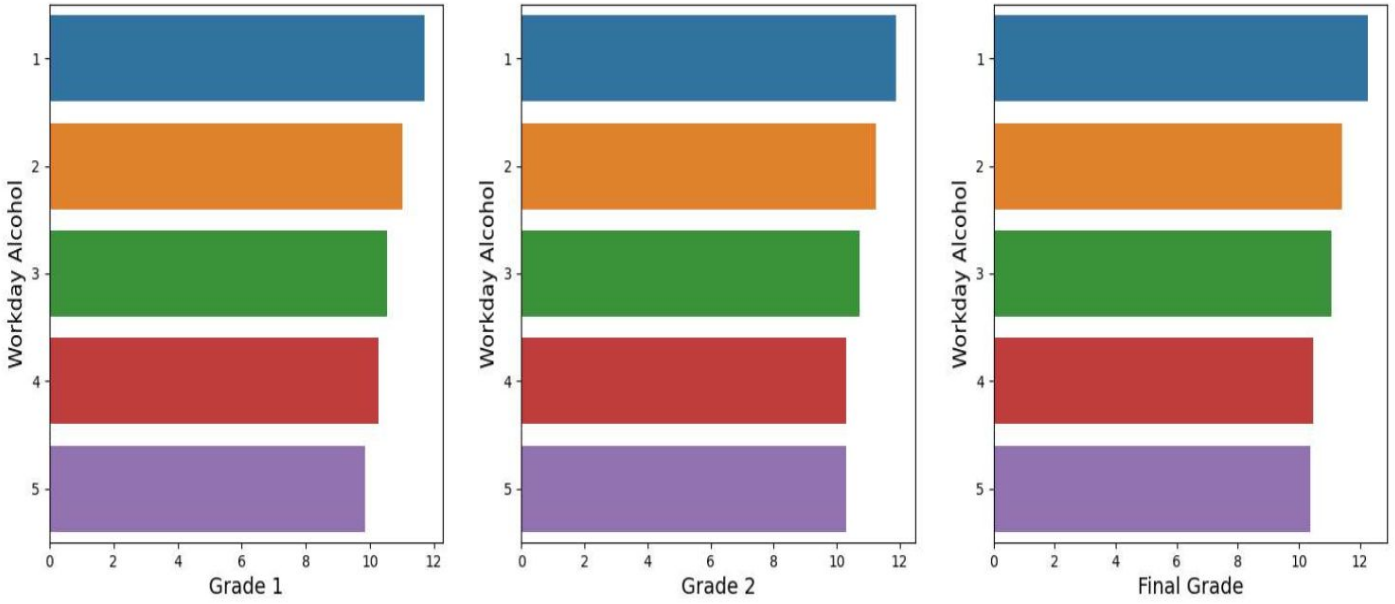






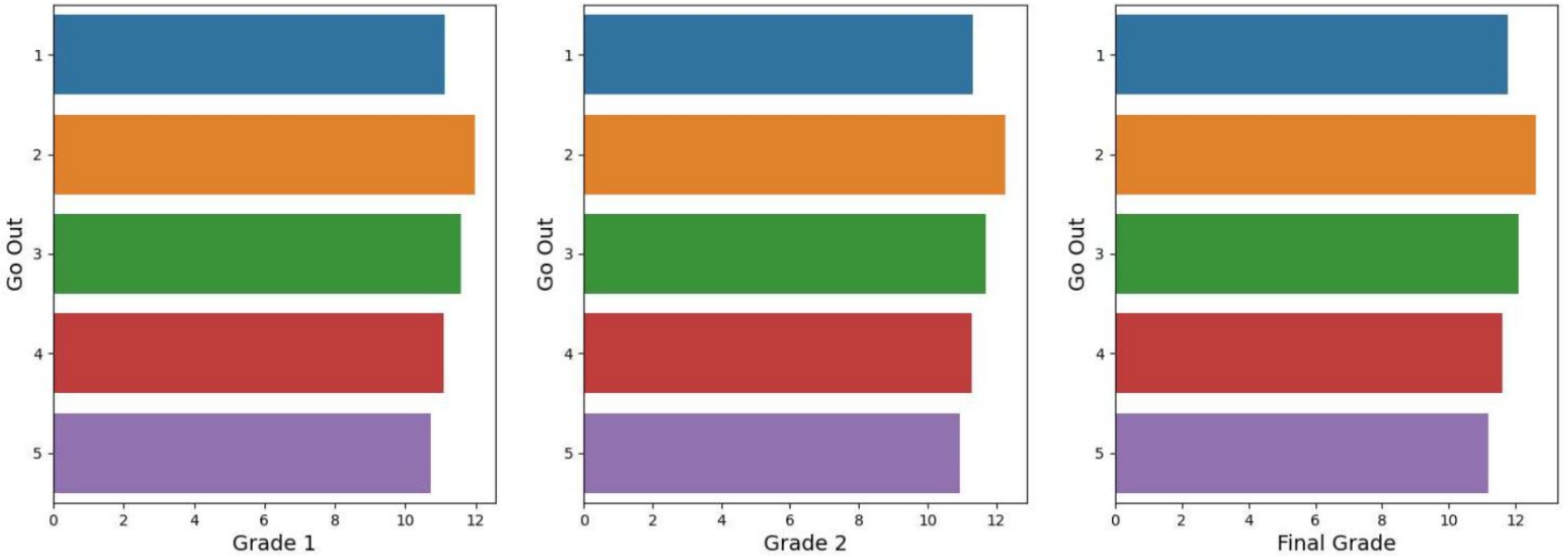
0 - Very Low
1 - Low
2 - Moderate

Effect of Alcohol(workday)



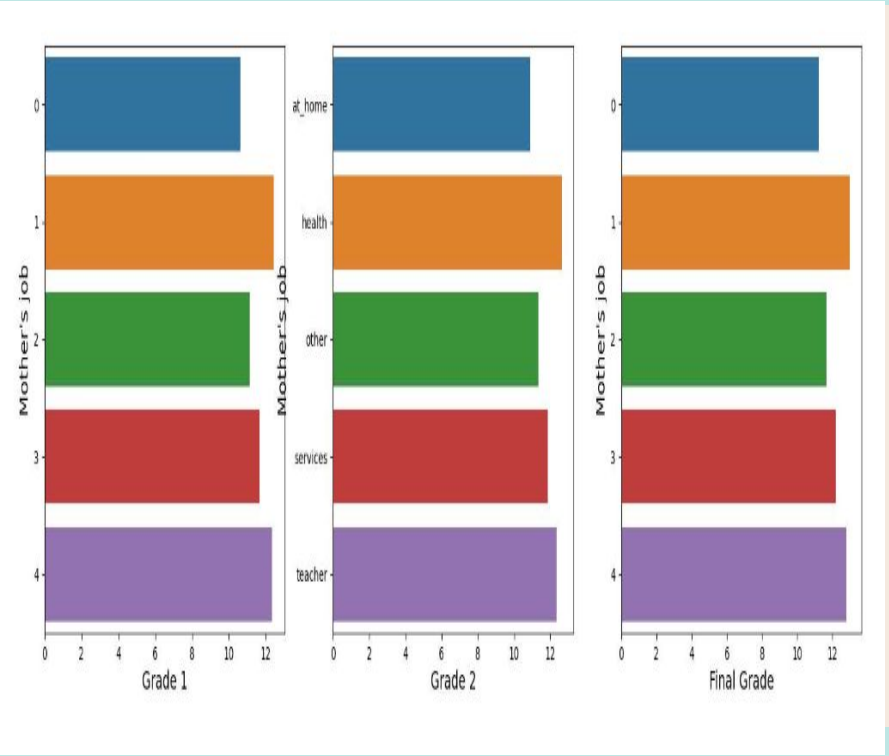
0 - Very Low
1 - Low
2 - Moderate
3 - High

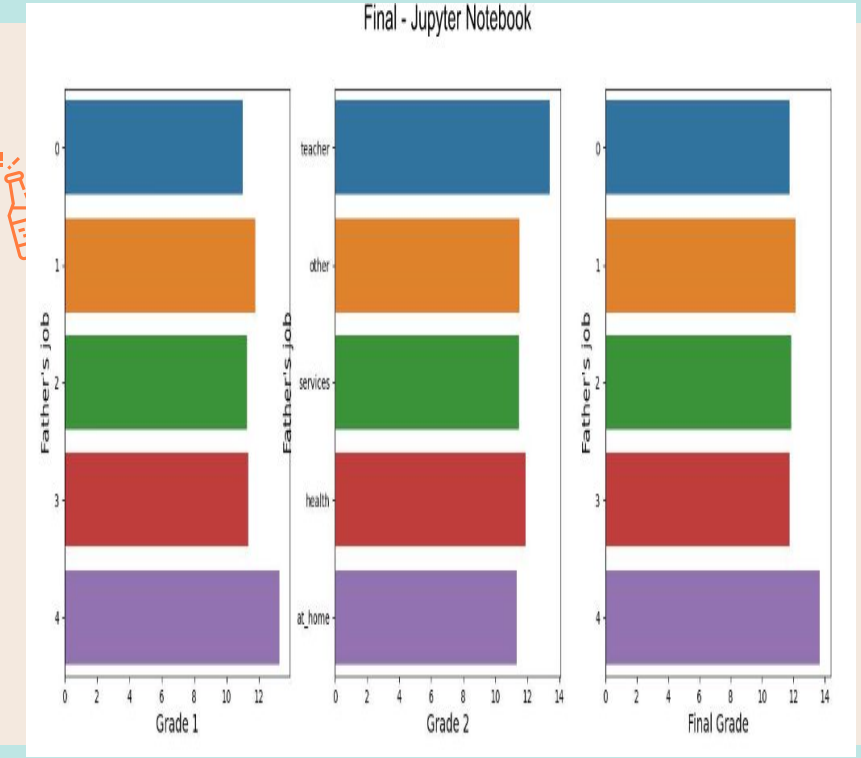
Effect of Social Life on QOE



0 - Very Low
1 - Low

Effect of Social Life on QOE





Model Results

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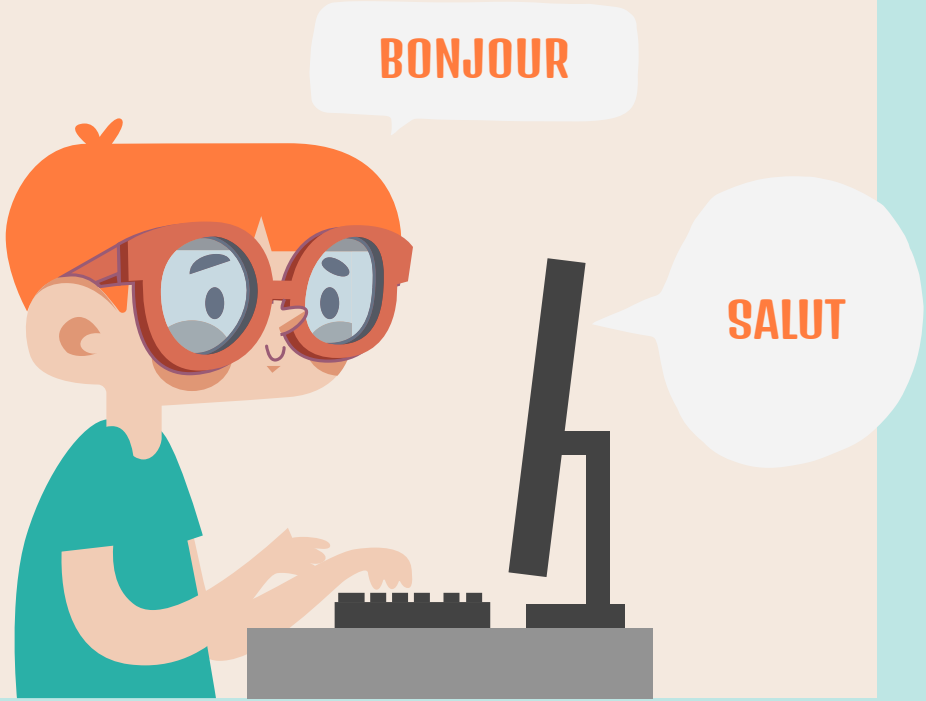
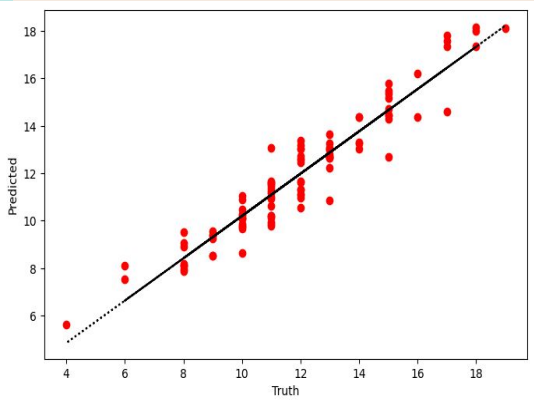
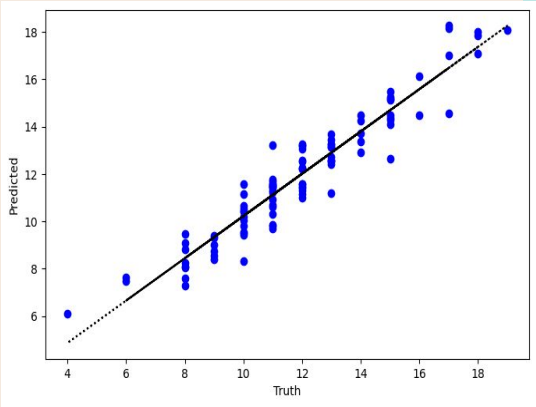
	MAE	RMSE	RMSE by cross validation	MSE	R^2
LinearRegression	0.672675	0.859612	0.991129	0.738932	0.906293
BayesianRidge	0.672036	0.859694	0.964315	0.739073	0.906276
RandomForestRegressor	0.741	0.916331	1.03639	0.839662	0.89352
GradientBoostingRegressor	0.652198	0.84234	1.133341	0.709536	0.910021
DecisionTreeRegressor	0.95	1.252996	1.590597	1.57	0.800903
Ridge	0.67261	0.85961	0.985111	0.73893	0.906294
Lasso	0.737147	0.97954	1.032126	0.959498	0.878323

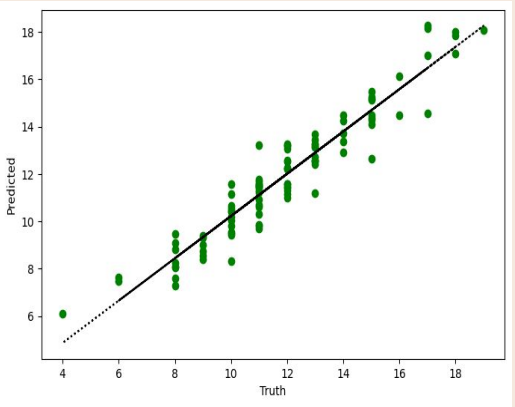


The GradientBoostingRegressor exhibited the lowest Mean Absolute Error (MAE) at 0.652, indicating superior predictive accuracy. It also showcased the highest R-squared value (0.910), demonstrating robust model fit. Among models, it stands out for precise predictions and strong overall performance in the regression analysis.

Regression Line using Different Models







THANK YOU