⚙ **Control Panel**

Configure model parameters and view analytics

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[View Source Code on GitHub](#)

Made with ❤️ by Shiv Sharan

Student Performance Analytics

Advanced prediction platform with ML ensemble techniques

📊 Data Analysis & Visualization

Explore the student performance dataset through interactive visualizations. Understand the relationships between different features and their impact on performance.

Dataset Overview ⌃

Dataset Overview

Number of Records	Missing Values
10000	0

Number of Features	Target Variable
5	Performance Index

Sample Data

	Hours Studied	Previous Scores	Extracurricular Activities	Sleep Hours	Sample Question Papers P...
0	7	99	Yes	9	
1	4	82	No	4	
2	8	51	Yes	7	
3	5	52	Yes	5	
4	7	75	No	8	

Column Information

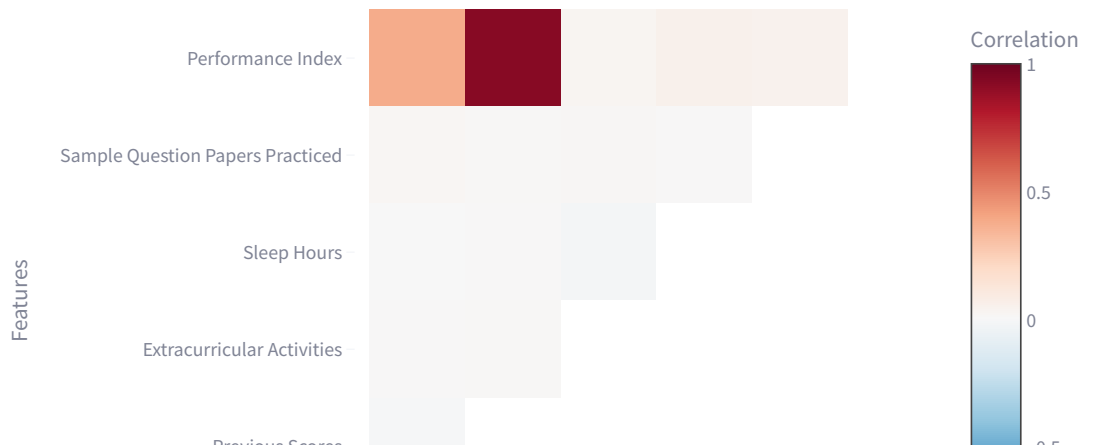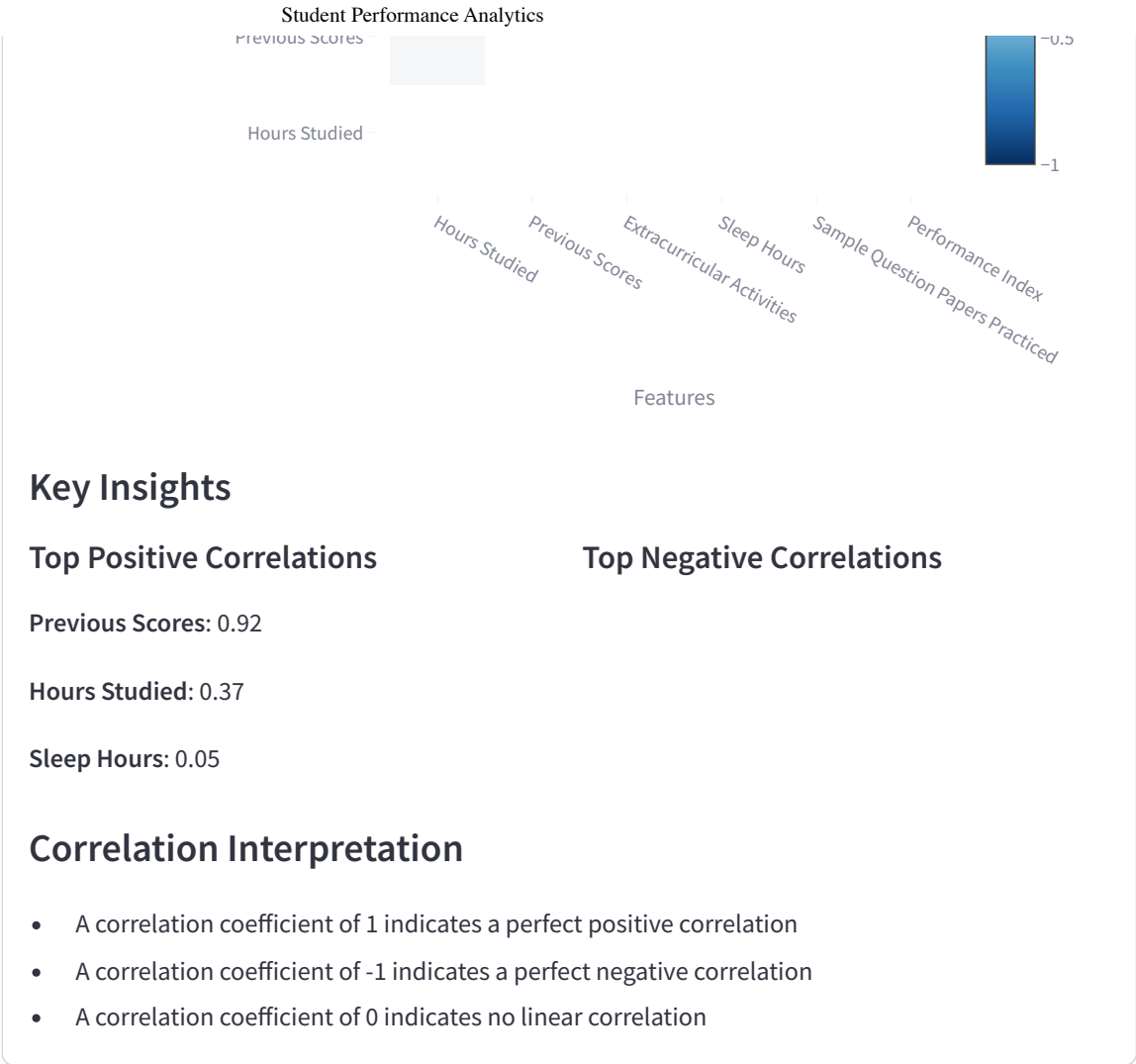|	Column	Type	Non-Null Count	Unique Va...
Hours Studied	Hours Studied	int64	10000	
Previous Scores	Previous Scores	int64	10000	
Extracurricular Activities	Extracurricular Activities	object	10000	
Sleep Hours	Sleep Hours	int64	10000	
Sample Question Papers Practiced	Sample Question Papers Practiced	int64	10000	
Performance Index	Performance Index	float64	10000	

Statistical Analysis ⌄

Feature Correlation Analysis ⌃

Correlation Analysis

This heatmap shows the correlation between different features. Strong positive correlations are shown in dark blue, and strong negative correlations in dark red.

Feature Correlation Matrix

Previous Scores

Hours Studied

−0.5

−1

Hours Studied   Previous Scores   Extracurricular Activities   Sleep Hours   Sample Question Papers Practiced   Performance Index

Features

Key Insights

Top Positive Correlations

Previous Scores: 0.92

Hours Studied: 0.37

Sleep Hours: 0.05

Top Negative Correlations

Correlation Interpretation

- A correlation coefficient of 1 indicates a perfect positive correlation
- A correlation coefficient of -1 indicates a perfect negative correlation
- A correlation coefficient of 0 indicates no linear correlation

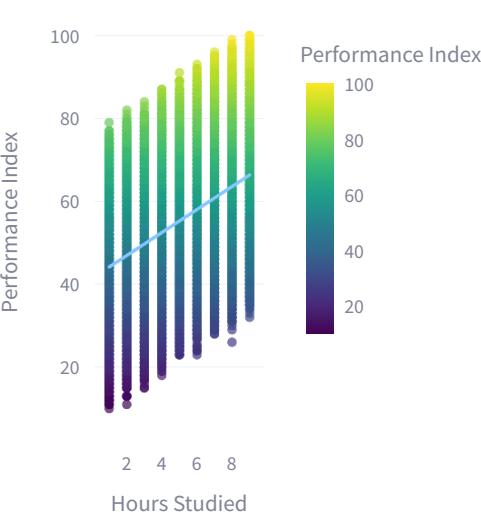Feature Visualization   ⌄

Feature Visualization

Explore the relationship between different features and the Performance Index.
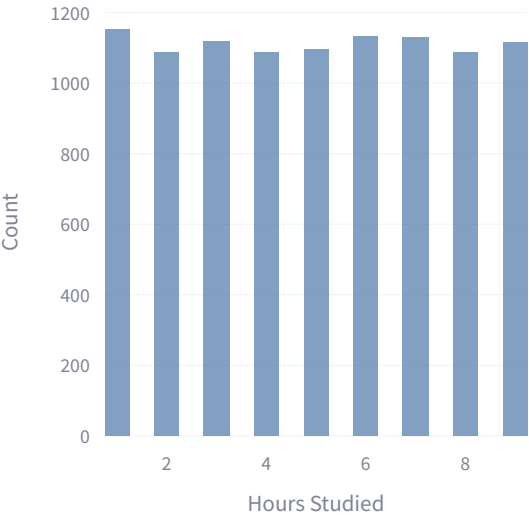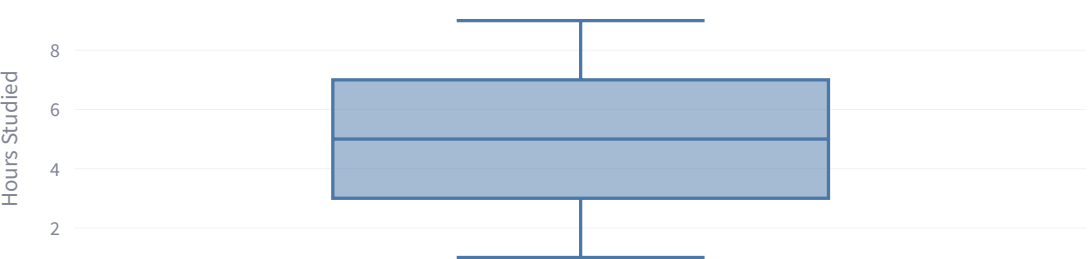
Select Feature to Visualize

Hours Studied ⌄

Hours Studied vs Performance Index

Distribution of Hours Studied

Box Plot of Hours Studied

Relationship Between Two Features
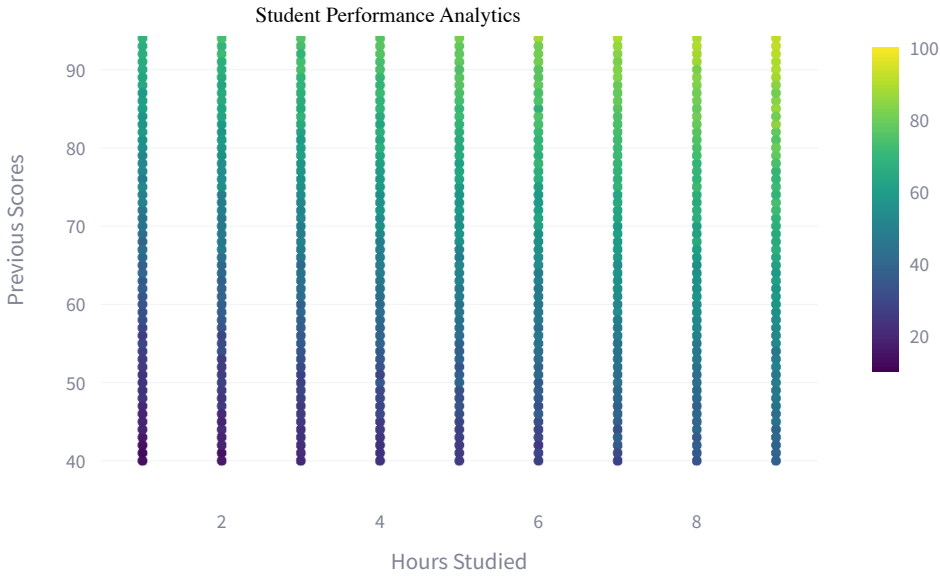
Select X-axis Feature

Hours Studied ⌄

Select Y-axis Feature

Previous Scores ⌄

Previous Scores vs Hours Studied by Performance Index

100   Performance Index

Student Performance Analytics

Performance Distribution

Performance Distribution Analysis

Distribution of Performance Categories

Legend:
- Average
- Poor
- Good
- Very Good
- Excellent

33.2%
25.6%
24.1%
15%
2.09%
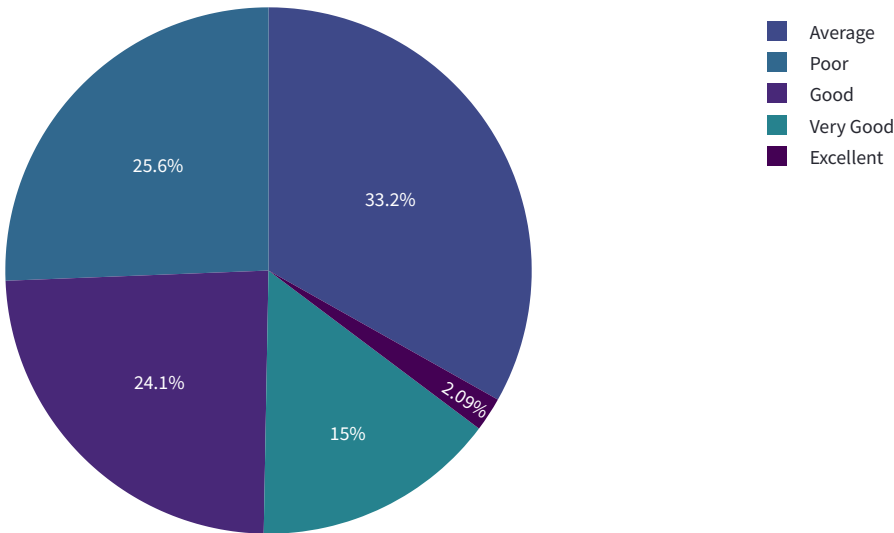
Performance by Feature

Select Feature for Comparison

Hours Studied ⌄

Average Hours Studied by Performance Category

Performance Category:
- Poor
- Average
- Good
- Very Good
- Excellent