Student Performance Analytics Dashboard

Problem Statement

Institutions need early warnings for students who might fail or drop out.

Objective

Analyze student data to highlight performance trends and risk areas.

Requirements

1. Dataset: Includes student marks, attendance, and login activity.
2. Calculate averages, correlation, and absentee impact.
3. Visualize top vs struggling students.
4. Use bar charts, heatmaps for visual insights.

Tools Used

Python, Pandas, Matplotlib, Seaborn, Jupyter Notebook

Data Description

The dataset consists of 250 students with fields:

- Student ID
- Name
- Marks
- Attendance
- Logins

Key Analysis Performed

- Calculated average marks, attendance, and logins.
- Identified at-risk students (marks < 40, attendance < 75%, logins < 5).
- Analyzed correlation between metrics.
- Visualized performance trends using bar charts and scatter plots.

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Insights & Outcomes

- Average Marks and Attendance provide a benchmark for comparison.
- Students with low attendance and fewer logins tend to perform poorly.
- The dashboard helps identify at-risk students early for academic interventions.

Conclusion

This dashboard enables institutions to proactively support students by identifying academic risks based on real performance data.