Student Performance Data Analysis Report

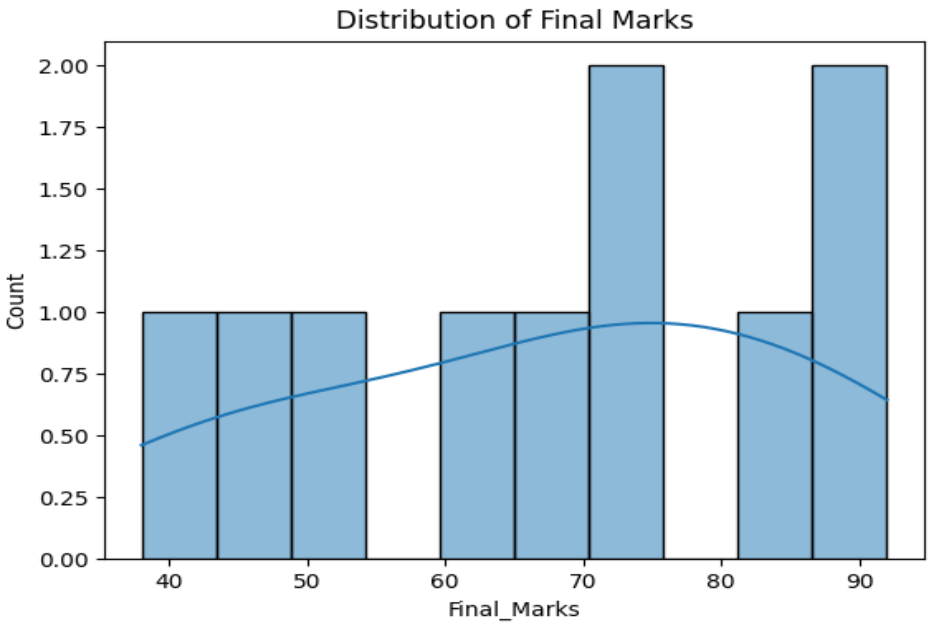
Internship: Python Development Internship (QSkill)
Intern: Mohammad Shadullah
Project: Data Analysis using Pandas & Matplotlib

1. Objective

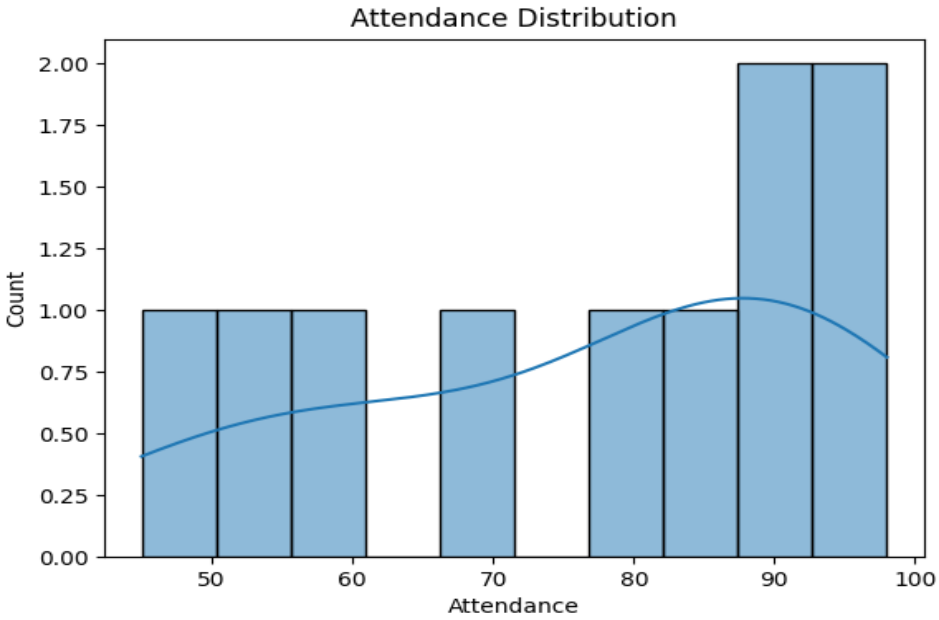
The objective of this project is to analyze student academic performance data, identify key influencing factors, and derive actionable insights using Python.

2. Exploratory Data Analysis (EDA)

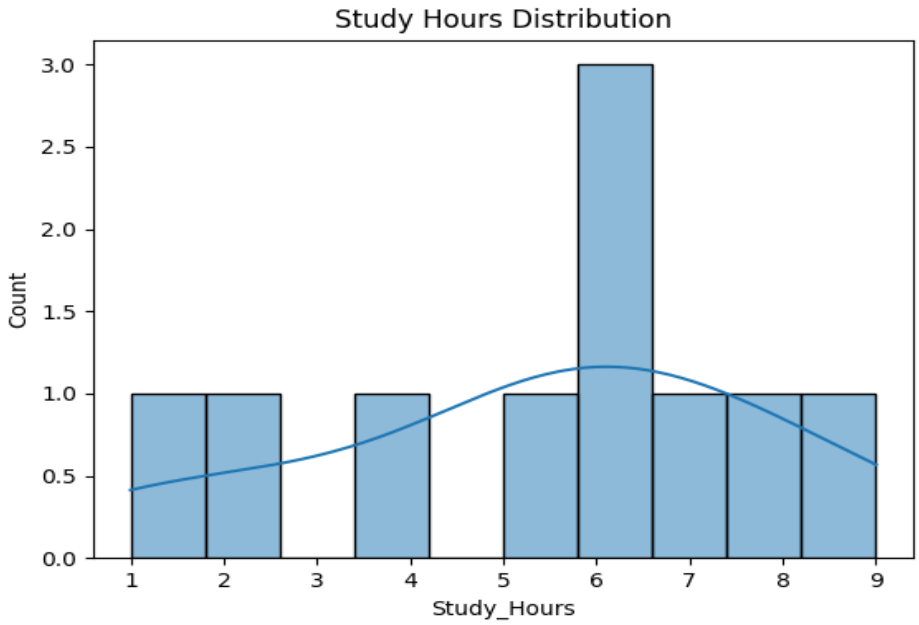
Marks Distribution



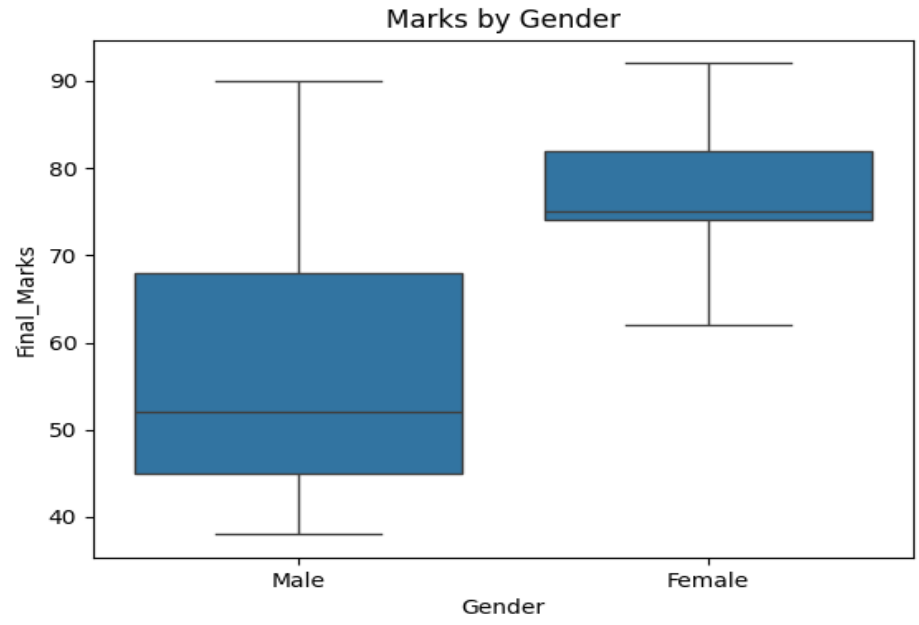
Attendance Distribution



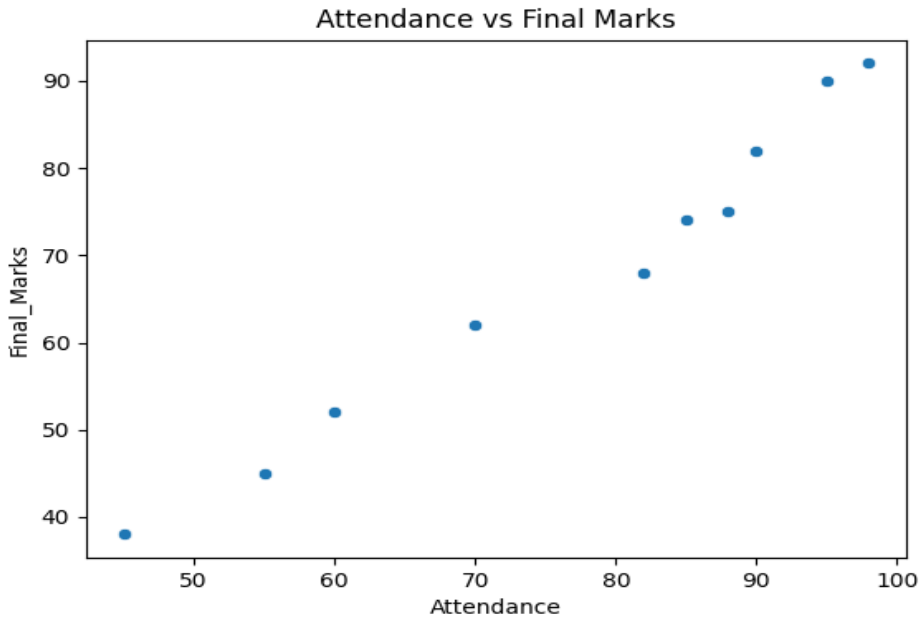
Study Hours Distribution



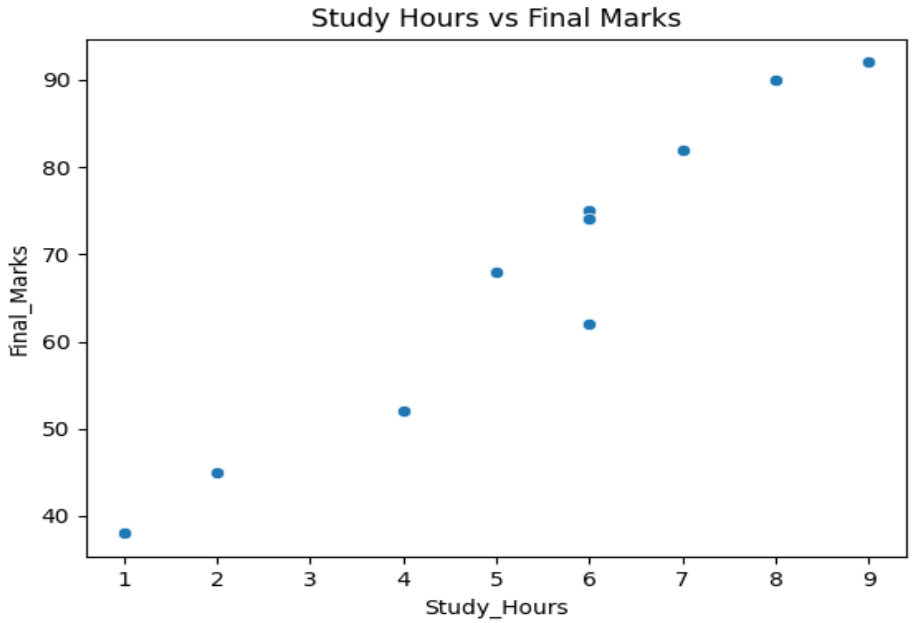
Marks by Gender



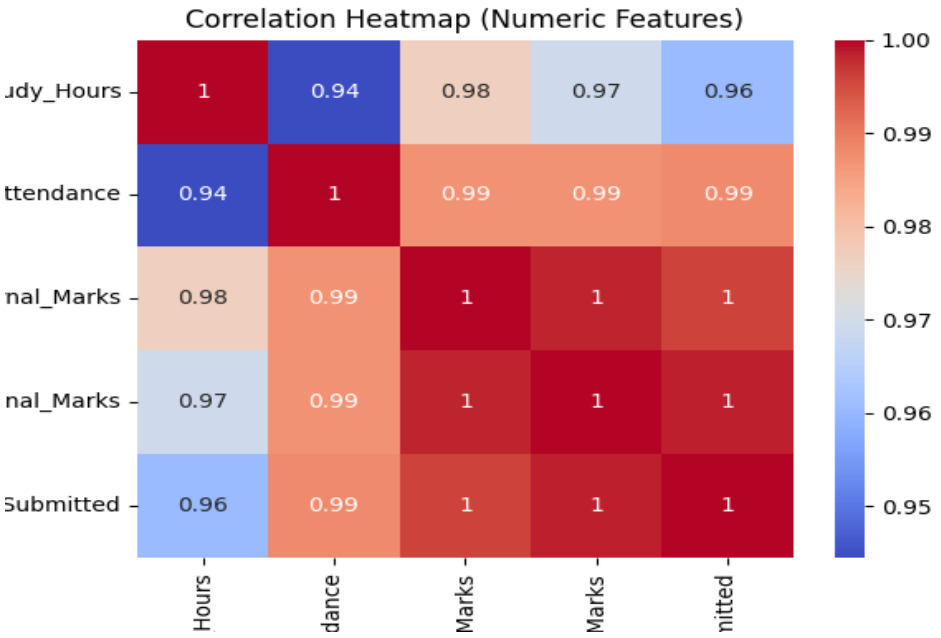
Attendance vs Marks



Study Hours vs Marks



Correlation Heatmap


Correlation Heatmap (Numeric Features)
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ttendance
nal_Marks
nal_Marks
Submitted
1
0.94
0.98
0.97
0.96
0.94
1
0.99
0.99
0.99
0.98
0.99
1
1
1
0.97
0.99
1
1
1
0.96
0.99
1
1
1
Hours
dance
Marks
Marks
nitted
1.00
0.99
0.98
0.97
0.96
0.95

3. Key Insights

- Higher attendance strongly correlates with better academic performance.
- Study hours improve marks up to a threshold, after which returns diminish.
- Female students show slightly higher median scores.
- Attendance and study hours are key predictors of final marks.

— End of Report —