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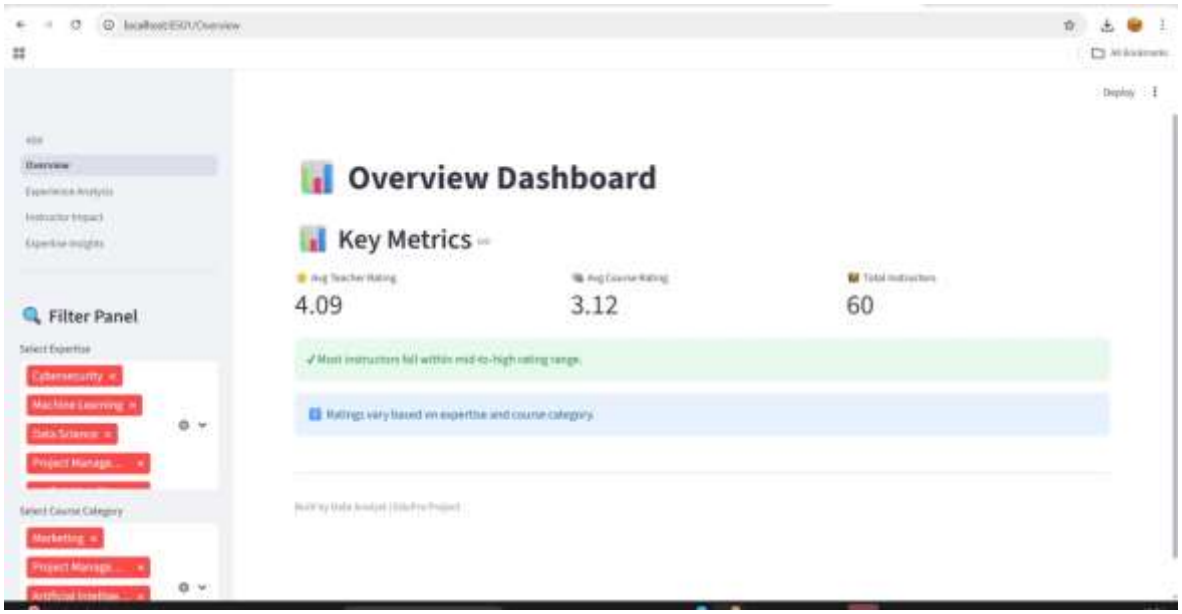
Instructor Performance and Course Quality Evaluation on EduPro

Samanvitha Bandaluppi

Abstract

This research investigates the relationship between instructor performance and course quality on the EduPro platform. By integrating multiple datasets, we analyze how teaching experience, expertise, and instructor ratings influence course outcomes and learner engagement. The study provides actionable insights for improving educational quality and platform performance.



Introduction

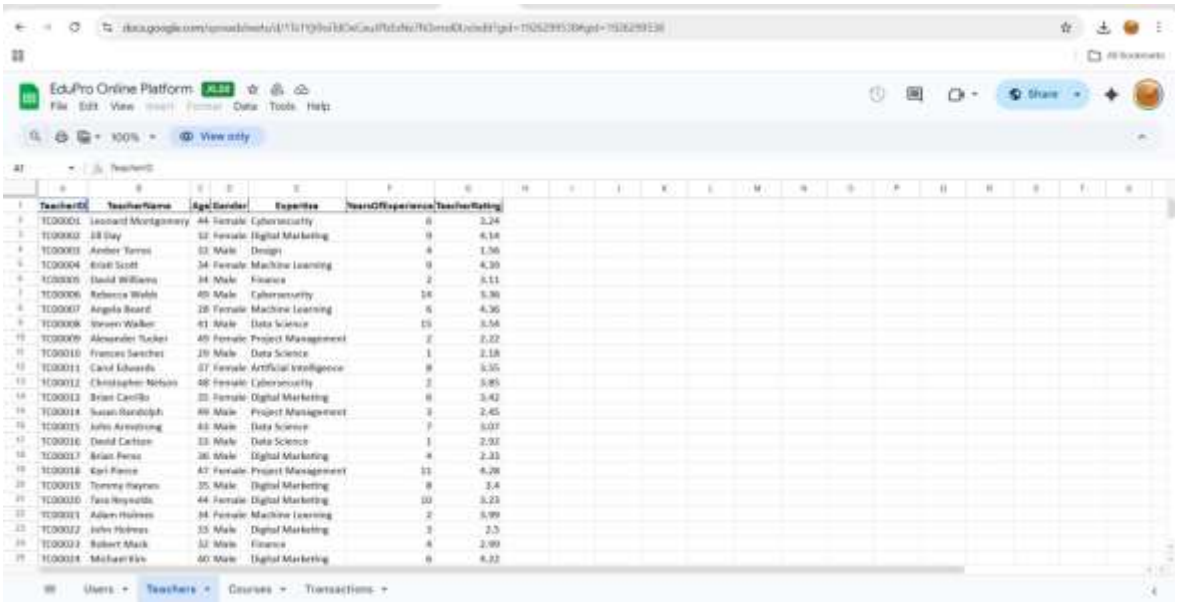
The rapid growth of online education platforms has increased the importance of instructor quality and course design. EduPro aims to enhance learner satisfaction and platform credibility by identifying key drivers of course success. This study focuses on understanding
how instructor attributes impact course ratings and enrollments.

Objectives

- Analyse the distribution of instructor ratings
- Examine the relationship between experience and performance.
- Evaluate instructor impact on course success
- Identify high-performing expertise areas
- Provide data-driven recommendations

Dataset Description

The dataset consists of three main components: Teachers, Courses, and Transactions. These datasets were merged using unique identifiers to create a unified analytical dataset.



Methodology

Data preprocessing involved cleaning, handling missing values, and merging datasets. Analytical techniques included descriptive statistics, correlation analysis, and visualization using Streamlit. Visual tools such as histograms, scatter plots, bar charts, and heatmaps were used to derive insights.

Analysis and Results

The analysis is divided into multiple sections:

Overview Dashboard:

Provides a summary of key metrics such as average ratings

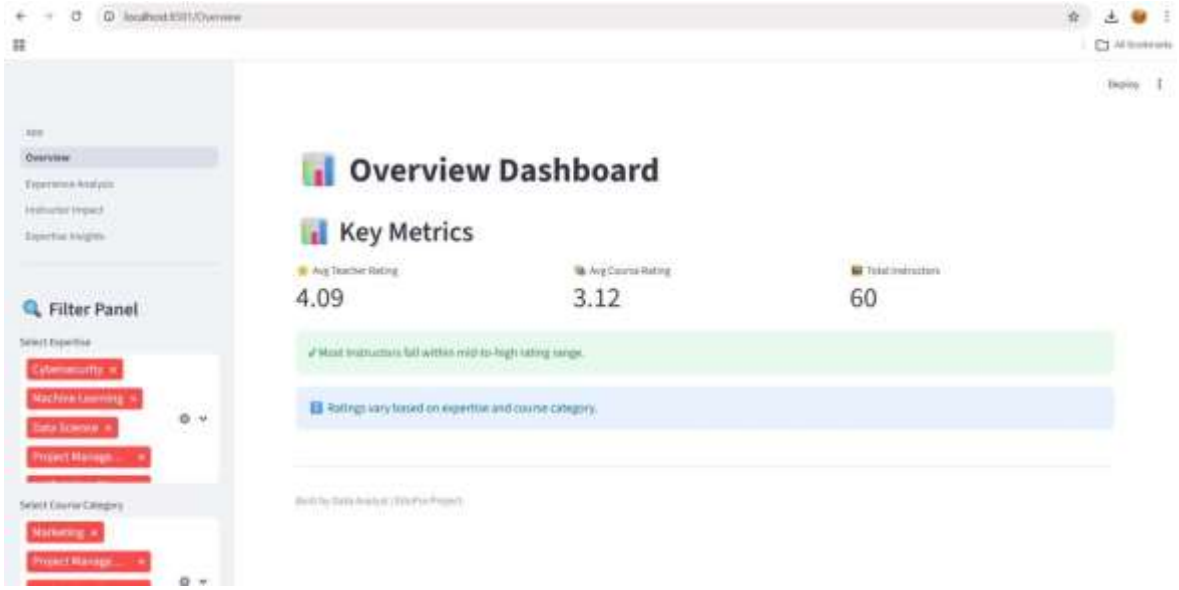


Fig 1: The Above picture shows Key Metrics of Teachers, Courses, Transactions.

Experience vs Performance:

Analyzes correlation between experience and ratings.

Fig 2: The above picture shows Experience vs Teacher Rating

Instructor Impact:

Evaluates how instructor ratings influence course success and enrollments.

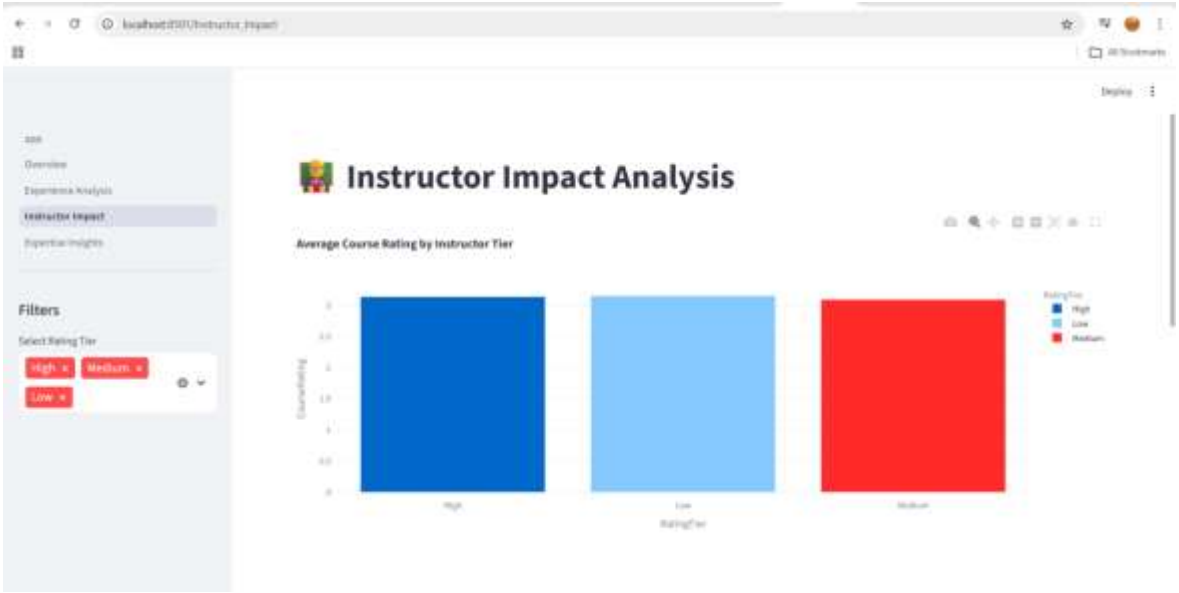


Fig 3.1: Average Course Rating by Instructor Tier

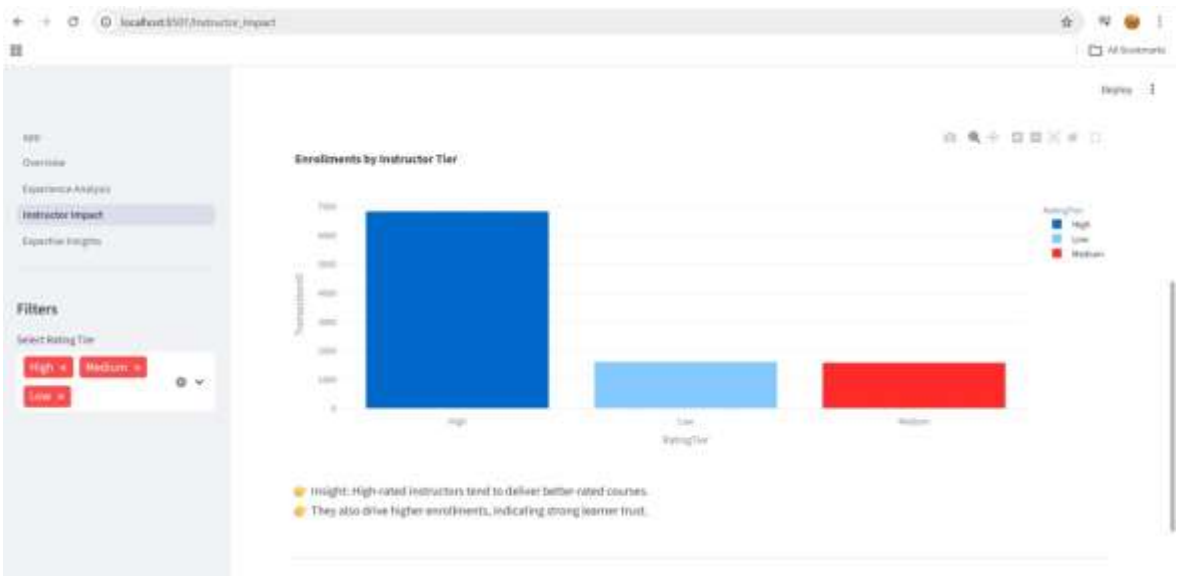


Fig 3.2: Enrollments by Instructor Tier

Expertise Insights:

Identifies high-performing domains using heatmaps.

Fig 4: The Above picture shows Course Ratings by Expertise & Category

Key Insights

- Instructor ratings are generally concentrated in mid-to-high ranges.
- Experience alone does not guarantee higher performance.
- High-rated instructors significantly influence course success.
- Expertise plays a crucial role in determining course quality.

- Certain course categories are more sensitive to instructor quality.

Discussion

The findings highlight that instructor performance is influenced by multiple factors beyond experience. Teaching effectiveness, subject expertise, and engagement strategies play critical roles. Platforms should focus on continuous improvement and targeted training programs.

Conclusion

This study demonstrates the importance of instructor quality in online education. By leveraging data analytics, EduPro can identify strengths and address gaps, ultimately improving learner satisfaction and platform growth.

Future Scope

Future work can include incorporating student feedback, retention metrics, and advanced predictive models to enhance instructor evaluation systems.