CINEMA TICKET SALES FORECASTING

Team 1

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PROJECT ABSTRACT

The film industry is known for its ever-changing landscape, affected by a range of factors like movie genres, release dates, marketing strategies, and audience tastes. This diversity poses a significant challenge when it comes to predicting ticket sales accurately. Traditionally, forecasting methods depend on looking at past data and analyzing demographics. However, with the introduction of advanced technologies, the industry has embraced more sophisticated approaches. Our approach mainly depends on

1. Addressing ticket sales uncertainties with data analytics, machine learning, and adaptive decisions in the dynamic entertainment industry.
2. Staying ahead by strategically using data analytics, machine learning, and proactive decision-making to meet evolving needs in the competitive ticket sales sector.
3. Identifying and overcoming ticket sales difficulties by adapting to market dynamics, using data analytics, and making informed decisions to navigate uncertainties.
4. Gaining a competitive edge in entertainment with data-driven strategies, anticipating challenges, and satisfying changing demands through proactive ticket sales decisions.

It can be achieved by optimizing resource allocation for cost-effective operations, implementing dynamic pricing, and targeted promotions based on sales estimates. Addressing industry risks, the initiative supports proactive decision-making amid evolving market dynamics. Providing data-driven insights for strategic planning, the project ensures theatre operators compete successfully in the dynamic entertainment industry.

To forecast cinema ticket sales, we will develop the model on Databricks using PySpark to process and transform the large dataset, while Spark MLlib will enable building scalable machine learning models. Platform capabilities like distributed data processing, scalable machine learning algorithms and collaborative workspace make Databricks well suited for this project on large-scale ticket sales forecasting.

Keywords*: ticket sales, film industry, machine learning, PySpark, Databricks, data processing, Spark MLlib*

References:

1. Cinema Tickets, retrieved on November 26, 2023 from https://www.kaggle.com/datasets/arashnic/cinema-ticket/data

2. Visualizing and Forecasting Box-Office Revenues: A Case Study of Visualizing and Forecasting Box-Office Revenues: A Case Study of the James Bond Movie Series, retrieved on November 26, 2023 from - https://digitalcommons.usu.edu/cgi/viewcontent.cgi?article=1413&context=gradreports

3. Visualization and Prediction of Film Award Nominations by Using of Visual Data Mining (VDM) and Exploratory Data Analysis (EDA) Method, retrieved on November 26, 2023 from - https://www.academia.edu/43542314/Visualization_and_Prediction_of_Film_Award_No%20minations_by_Using_of_Visual_Data_Mining_VDM_and_Exploratory_Data_Analysis_EDA_Method