

PROJECT PROPOSAL

Predicting Company's Cashflow for Upcoming Years

1. Project Type:

Application-Flavor.

2. Problem Addressed/ Objective:

The project aims to address the challenge of predicting a company's next year's cash flow based on its historical balance sheet, financials, and income statement datasets. This problem is crucial for investors, financial analysts, and stakeholders to make informed decisions about investment, financial planning, and risk management.

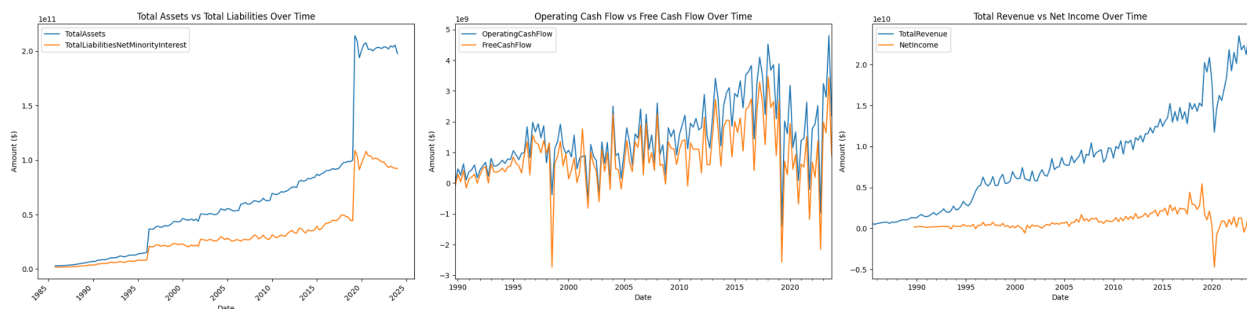
3. Dataset Description:

Quarterly financial datasets (balance sheet, cash flow statement, general financials) for The Walt Disney Company, from 09/30/1985 to 12/31/2023, encompassing assets, liabilities, cash flows, and performance metrics.

- Balance Sheet Dataset (DIS_quarterly_balance-sheet.csv): Comprehensive quarterly balance sheet, detailing assets, liabilities, and equity.

- Cash Flow Statement Dataset (DIS_quarterly_cash-flow.csv): Detailed quarterly cash flow information from operating, investing, and financing activities.

- General Financials Dataset (DIS_quarterly_financials.csv): Broad overview of the company's financial performance quarterly, including revenue, cost of revenue, and operating expenses.



4. Project Goal and Motivation:

The goal of this project is to develop a predictive model that can accurately forecast a company's cash flow for the next year utilizing its past 30 years of financial data. By doing so, the project aims to provide valuable insights into the company's financial health and future performance, aiding investors and decision-makers in making sound investment and strategic decisions. The motivation behind this project is to leverage machine learning techniques to extract meaningful patterns and relationships from extensive financial datasets, enabling proactive financial planning and risk mitigation strategies.

5. Methodology and Plan:

Data Collection and Preprocessing: Gathering 30 years of historical balance sheet, financials, and income statement data for The Walt Disney Company.

Feature Engineering: Extract relevant features such as liquidity ratios, profitability metrics, leverage ratios, etc., from the datasets.

Model Selection: Experiment with various machine learning algorithms suitable for time series forecasting, such as ARIMA, LSTM, or XGBoost.

Model Training and Evaluation: Train the selected models on historical data and evaluate their performance using appropriate metrics like Mean Absolute Error (MAE) or Root Mean Square Error (RMSE).

Hyperparameter Tuning: Fine-tune the parameters of the chosen model to optimize its performance.

Deployment: Deploy the trained model into a user-friendly interface or integrate it into existing financial analysis tools.

Testing and Validation: Validate the model's predictions against actual cash flows for recent years to assess its accuracy and reliability.

6. Schedule:

Data Preprocessing and Feature Engineering: 2 weeks

Model Training and Evaluation: 3 weeks

Hyperparameter Tuning: 1 week

Forecasting and Analysis: 1 week

Documentation: 1 week

7. Resources Needed:

Access to historical balance sheets, financials, and income statement datasets of the target company.

Machine learning libraries and tools such as Python, TensorFlow, or sci-kit-learn.

Access to relevant research papers and literature on financial forecasting and machine learning techniques.

8. Workload Distribution:

Rohith Ganni (50%) - Data Collection, Data Preprocessing, Feature Engineering, Model Selection and Training.

Sri Naga Sai Kiran Kalluri (50%) - Feature Engineering, Model Selection and Training, Hyperparameter Tuning, Forecasting and Analysis.