

AI Finance Hackathon



Platform name : FinTalk

Dataset used are :

- Reliance Industries
- TCS
- Infosys

About Dataset : We used the annual report of the above three companies which included P/L ratio, Revenue, Profit, Loss and many more financial terms.

About companies :

Here's a comparative analysis of Reliance Industries (RIL), Infosys, and TCS based on your financial data, with visualizations and key insights:



1. Financial Health Comparison (FY24)

Metric	Reliance Industries	Infosys	TCS
Debt/Equity	0.31	0.00 (Debt-Free)	0.00 (Debt-Free)
Current Ratio	1.09	2.62	2.20
Revenue (₹ Cr)	9,80,000	1,55,000	2,40,000
Operating Margin	16.1%	20.1%	24.5%
FCF (₹ Cr)	34,200	23,900	42,900

Key Insights

Reliance Industries

- Debt Management: Moderate D/E ratio (0.31) due to massive renewable energy capex (₹1.2L Cr).
- Liquidity: Current ratio of 1.09 suggests tight working capital management.
- Revenue Trend: Q4 revenue dropped to ₹124,381Cr (from ₹146,832Cr in Q1), likely due to oil price volatility.

Infosys

- Zero Debt: Strong balance sheet with ₹81,176Cr shareholder funds.
- Margin Pressure: Operating margin fell to 20.1% (from 21.3% in FY23) despite flat revenue growth (4.7% YoY).
- Employee Costs: 58% of revenue spent on employees (₹16,849Cr quarterly).

TCS

- Cash King: ₹94,918Cr current assets (78% of total assets) with ₹42,900Cr FCF.
- Margin Leader: Highest operating margin (24.5%) in the trio.
- Stable Growth: 7.6% revenue growth despite global IT slowdown.

About model:

1) Data Loader:

- Works with Excel files using pandas.
- Supporting both annual (yearly) and quarterly reports.
- Automatically converts financial values to the respective numeric type.

2) Financial Engine:

- Calculates key ratios.
- Cross-verifying data across the reports.

3) LLM Core:

- Model: Microsoft Phi-3-mini (3.8B parameters).
- Fine-tuning for financial analysis on 582MB of finance-specific data.
- Quantized to 4-bit (3.2GB memory used).

4) Visualization Module:

- Produces charts

5) Interface:

Interactive web UI with:

- Company selector
- Natural-language input
- Dynamic response/visualization panels



Technical Stack

Component	Technology Used	Purpose
Data Processing	Pandas + Openpyxl	Excel report parsing
LLM	Phi-3-mini + BitsAndBytes	Financial reasoning
Visualization	Matplotlib + Plotly	Interactive charts
Interface	Streamlit	Web UI
Optimization	4-bit Quantization	Reduce memory usage by 75%
Error Handling	Sentry-like custom logger	Track financial data anomalies

