



## Tech Horizon Internship 2025/TASK-01

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# Task 1 – Financial Report Analyzer

## 1. Objective

The objective of this task was to design and implement a **Financial Report Analyzer** that can automatically process company financial data, summarize key insights, generate visualizations, and export results in a professional format.

## 2. Tools and Libraries Used

- **Pandas** → For data cleaning, manipulation, and summarization.
- **Excel API (openpyxl/xlsxwriter)** → To read, write, and export financial data into Excel.
- **Matplotlib / Seaborn** → To create clear and professional charts for analysis.

## 3. Process and Steps Taken

### (a) Dataset Selection

- Initially tested with an "income-statement.xlsx" file but it had formatting errors.

- Finally, I used the “**Apple Financial Public Data (2018–2023)**” dataset from Kaggle.
- This dataset contained Apple’s revenue, net income, expenses, and other financial metrics.

#### (b) Data Upload and Cleaning

- Loaded the dataset into Python using Pandas.
- Checked for missing values, formatting issues, and column consistency.
- Converted financial values into numeric format for easy calculations.

#### (c) Auto-Summary Creation

- Calculated **key metrics** such as:
  - Total Revenue
  - Net Income
  - Profit Margin
  - Debt-to-Equity Ratio
- Created descriptive summaries (text-based insights) to highlight trends.

#### (d) Data Visualization

- Generated multiple **line charts** showing:
  - Revenue growth over time
  - Net income trends
  - Profit margin fluctuations
- Selected **3 key graphs** (Revenue, Net Income, Profit Margin) as the most relevant for the report.

#### (e) Exporting Results

- Exported the summary and insights into Excel with charts embedded.
- Ensured the report was **clear, professional, and presentation-ready**.

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### 4. Key Learnings

- How to handle financial datasets in **Pandas**.
- The importance of **data cleaning** before analysis.
- Automating the creation of **financial ratios**.
- Visualizing long-term trends using **line charts**.
- Preparing insights in a way that is useful for managers and stakeholders.

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### 5. Outcome

The final output was a **Financial Report Analyzer system** that:

- Reads raw financial statements.
- Cleans and processes the data automatically.
- Produces summaries of financial performance.
- Generates professional charts for visualization.
- Exports the results into an Excel-based report with insights.

This task successfully mimics the role of a **financial analyst assistant tool**, saving time and effort in analyzing company performance.



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