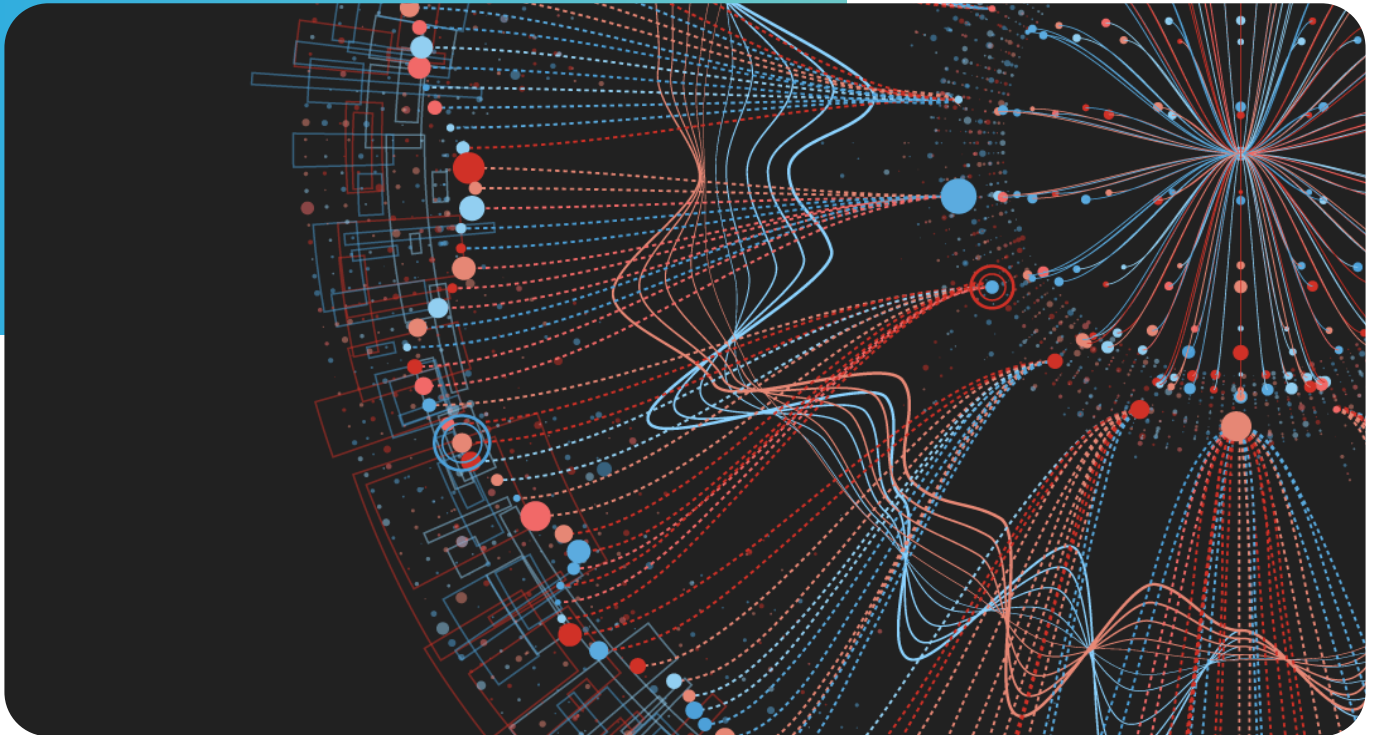# TRANSFORMING FINTECH INSIGHTS: PREDICTIVE DATA ANALYTICS & VISUALIZATION DRIVE AUTOMATED DATA COLLECTION AND HIGH PREDICTION ACCURACY

PROJECT OVERVIEW

Institutional investors need to constantly value and comprehensively track the hundreds of factors that affect the vast array of stocks on their watchlist immediately. This task becomes impossible without the proper crawling, automation, and analytics infrastructure. Indium Software's solution gathers all available public information, including stock exchange releases, press releases, third-party investment sources, domain-specific sources, and news sources. The solution analyzes the company's past performance across different metrics and projects future growth potential using highly sophisticated algorithms and advanced predictive analytics.

SOLUTION DELIVERED

Predictive Analytics & Data Visualization

CLIENT DOMAIN

FinTech, Investment Banking

KEY HIGHLIGHTS

- Automated Data Collection: The solution automated the collection of robust, diverse, and comprehensive data for each stock.

- High Prediction Accuracy: The solution achieved more than 98% accuracy in predicting the effect of releases on stock performance.

ABOUT CLIENT

Our client is a FinTech company that collects financial data from various sources and uses algorithms to provide deep insights for investment planning. Currently, they have around 200K+ pieces of financial market intelligence data.

BUSINESS REQUIREMENT

The client, a FinTech company, needed an analytics development partner to create a solution that would utilize publicly available company information to analyze their past performance and project future growth potential.

After careful consideration, Indium Software, with over two decades of experience working with cutting-edge technologies and in FinTech, was chosen and commissioned for the task.

A team of three individuals recognized the pivotal role that data analytics can play in helping institutional investors evaluate potential companies for investment. They embarked on a FinTech venture to develop a technology solution for corporate data analytics.

The solution's objective was to analyze core company data and project potential growth in the upcoming quarters, considering various internal and external factors that influence it. This would provide investors with the necessary insights to assess the suitability of the venture for investment. This process disrupts the traditional approach, where auditors personally examine profit and loss statements and rely on intuition, which is susceptible to human error.

BUSINESS CHALLENGE

Obtaining relevant financial information for smaller ventures and unlisted companies can be challenging due to the limited availability of data in the public domain, particularly revenue details. Unlike listed companies, these entities often have less information accessible to the public. Additionally, the available data is typically scattered across various formats such as tables, PDFs, plain text, and CSV, further complicating the task of archiving and analyzing financial information.

It is important to note that the lack of comprehensive and standardized data for smaller ventures and unlisted companies poses a significant burden when gathering and analyzing their financial information.

SOLUTION HIGHLIGHTS

Indium Software developed a three-pronged approach to tackle insufficient and unstructured data:

1.Reusable Data Extraction: Utilized daily scraping to extract structured data from the public domain. Employed Power Law modeling for cases where direct extraction was not possible.

2. Flexible Data Architecture: Stored data in MySQL after cleaning unstructured data.

3. Data Analytics: Analyzed and presented data using Tableau and QlikView to easily comprehend performance trends.

THE SCRAPING PROCESS

Data scraping is a straightforward process of extracting data from the web and public resources. However, deriving value from the extracted data requires a series of complex steps, including:

- Careful selection of data sources.
- Customizing code to handle different data formats.
- Thorough cleaning of the data.
- Transforming unstructured data into a structured format.
- Storing the data in a query-friendly database.

This process, commonly called data harvesting, involves multiple steps and considerations. Indium Software has expertise in processing data from diverse and complex formats such as PDFs, unstructured plain text, and tables within tables. They have implemented automated routines to schedule data extraction from multiple sources, ensuring regular updates. The system is designed to handle errors and exceptions, promptly notifying managers of issues like irregular updates, format changes, or system downtime.

With Indium's streamlined data extraction process, data can be extracted from over 100 sources in less than 10 minutes without manual intervention. These meticulously gathered ingredients are now ready for the Sous Chef to cook, enabling further analysis and insights.

THE TRANSFORMATION & ENGINEERING PROCESS

Simple data scraping is insufficient for a comprehensive analysis as additional information often needs to be refined and appended in areas lacking data. Indium Software recognized this need, transformed data, and created new fields for the analytics process. The processed data was then securely stored in a cloud infrastructure, providing a robust foundation for visualizing past revenue trends and predicting future revenue potential. Indium Software's ultimate objective was to develop a visualization product.

- To ensure optimal performance and efficiency, Indium Software took several steps:
- Optimized the fields in the databases, retaining only the mandatory ones for speed and efficiency.
- Optimized the calculations for derived fields to enhance processing speed.
- Coded the system to perform these calculations during non-peak hours, minimizing any impact on system performance.

THE DATA VISUALIZATION PROCESS

Indium Software developed a product to assist retail investors, institutional investors, and equity managers uncover valuable insights about a company's financial health and revenue. These insights go beyond basic profit and loss information and traditional stock chart indicators. The product enables investors to make informed decisions by comparing actual and projected revenue.

BUSINESS IMPACT

Indium Software's solution demonstrated four companies' revenue and growth potential for the upcoming quarter, serving as a pilot. This success will be leveraged by the FinTech venture to showcase its product to external investors and FinTech experts. Indium Software will assist the client in expanding the product to multiple stock groups and shaping a larger vision.
Key techniques implemented by Indium Software included:

- Automated Data Collection: Indium Software developed a robust routine for automated data collection from multiple sources. The collected data were standardized.
- Data Cleaning and Organization: Unstructured data underwent cleaning processes to remove inconsistencies and unwanted noise. The cleaned data was stored in organized SQL tables.
- Statistical Techniques: Statistical techniques such as Power Law and Levenshtein Distance were applied to crunch the data, achieving over 98% accuracy in predictions during analysis.
- Scalable Big Data Technology: The product was built using scalable Big Data technology, ensuring efficient calculations and storage aligned with the client's vision.
- The client plans to further develop the solution, targeting different audiences, including retailers, mutual fund houses, equity advisors, institutional investors, and more.

TECH STACK

ABOUT INDIUM

Indium Software is a fast-growing Digital Engineering company, focused on building modern solutions across Applications, Data, and Gaming for its clients. With deep expertise in next-gen offerings combining data and applications, Indium offers a wide range of services including Product Engineering, Low-Code development, Data Engineering, Ai/ML, Digital Assurance, and end-to-end Gaming services.

indium
Make Technology Work

USA	INDIA	UK	SINGAPORE
Cupertino	Princeton	Chennai	Bengaluru	Mumbai	Hyderabad	London	Singapore
Toll-free: +1-888-207-5969	Toll-free: 1800-123-1191	Ph: +44 1420 300014	Ph: +65 6812 7888

www.indiumsoftware.com

For Sales Inquiries
sales@indiumsoftware.com

For General Inquiries
info@indiumsoftware.com