



Fraud Detection and Portfolio Investment Opportunities

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This problem situation was written by Luis Arturo Bernal Ponce (larturo.bernal@tec.mx), with the purpose of serving as discussion material in the classroom; it does not intend to illustrate good or bad administrative practices. The story on this document is based on different people's experiences; some data has been modified at the request of the people and institutions involved.

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The Company

TProX a renowned data analytics firm specializing in technology solutions, operates in the United States. With a strong presence in the financial sector, TProX caters to various clients within the industry. Recently, the company acquired a new client, FiZow, which seeks TProX's expertise in investment and credit risk management. FiZow is a financial institution that primarily focuses on providing credit cards and investment opportunities to its customer base.

The Credit Card Fraud Detection Solution

A significant challenge faced by FiZow is the need for more effective credit risk management in the credit card segment. As the company expands its customer base, the number of customers defaulting on loans has also increased, resulting in significant monetary losses. FiZow seeks TProX's assistance in developing a comprehensive solution to manage and mitigate credit risk by using Credit score to control that risk. Using personal information and data submitted by credit card applicants to predict the probability of future defaults, FiZow can decide whether to issue a credit card to the applicant.

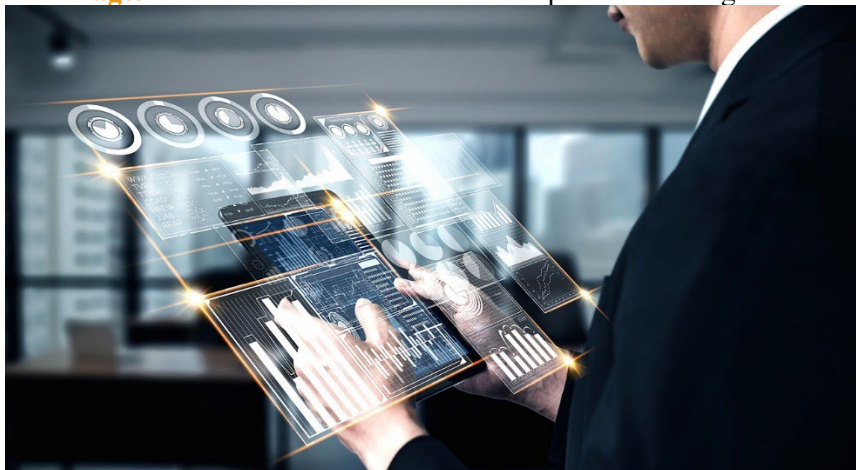
TProX's consultants suggest employing statistical and machine learning methodologies to analyze the available data and create a credit scoring model. TProX emphasizes the importance of utilizing specialized software to expedite the analysis process and enable the examination of vast amounts of data.

The Investment Management Solution

FiZow recognizes the need to enhance the returns it offers to its customers and thus approaches TProX to develop a novel investment methodology. Thus, some directors did research about it. They have found that Artificial Intelligence (AI) has revolutionized investment portfolio management, offering advanced data analysis, pattern recognition, and decision-making capabilities (State Street Global Advisors, n.d.).

With the ability to efficiently analyze vast amounts of financial data, including historical market trends and real-time information from sources such as news and social media sentiment, AI allows portfolio managers to make more informed investment decisions (Board of Governors of the Federal Reserve System, 2018). This technology's pattern recognition algorithms can identify complex relationships and patterns in financial data that may go unnoticed by traditional analysis techniques (CFA Institute, 2018). By leveraging machine learning models, AI can generate investment strategies that adapt to changing market conditions (CFA Institute, 2018). Additionally, AI plays a crucial role in risk management, helping portfolio managers identify potential risks and optimize portfolios based on risk tolerance and diversification (CFA Institute, 2018).

Image. AI has revolutionized investment portfolio management.



Source. Tung Nguyen in Pixabay, 2022.

In this sense, TProX's consultants have engaged in discussions with FiZow executives regarding AI emerging trends in investment analysis. They propose incorporating AI to detect financial market anomalies into the investment strategy, aiming to increase the annualized return of FiZow's investment portfolios. This exciting potential for increased returns is a key advantage of the proposed AI integration. To achieve this objective, TProX emphasizes the advantages of leveraging specialized software capable of faster analysis and the processing of large datasets.

The Decision

FiZow executives eagerly anticipate integrating the proposed solutions within their organization and inquire about the expected timeline for delivery. In response, TProX consultants indicate they can develop the required credit card fraud detection solution within one week. Directors at FiZow propose to test the model with a database of new customers that they are analyzing.

On the other hand, to ensure the investment management solution meets the highest standards, TProX requests an additional four weeks to gain insights into state-of-the-art investment strategies before developing the required algorithms.

See Databases:

Credit
Investment
New Credit

References

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