

Prediction of Electric Load Neural Network Prediction Model for Big Data

Fangchen Lu*

School of Economics, Southwest Minzu University, Chengdu, China

*Corresponding author: lufangchen001@163.com

Abstract. In the background of information network and big data era, the digitalization and information network level of China's financial industry has been improved, and many advanced big data analysis technologies have been derived, among which mobile big data analysis model is the most widely used. Based on the concept of financial investment, mobile big data analysis model can not only improve the accuracy of financial data analysis, but also quickly establish the financial investment evaluation and prediction model, providing a reliable basis for financial investment and financial development strategy. In this regard, the author combines relevant literature and his own work experience to conduct a detailed study on mobile big data analysis model based on financial investment concept. Mobile big data analysis model is a kind of data analysis model established based on big data technology, which has the characteristics of strong data collection ability, high accuracy of data statistics and analysis, and high efficiency of data application. Based on the concept of financial investment, the mobile big data analysis model can not only improve the financial investment analysis function of the mobile big data analysis model, but also improve the financial risk analysis ability of the model, which provides a reliable basis for financial investment and financial risk management. Therefore, the following briefly outlines financial investment, then analyzes the importance of building mobile big data analysis model based on financial investment concept, and finally analyzes the method of building mobile big data analysis model based on financial investment concept and briefly discusses the typical application of the model.

Keywords: financial investment concept; mobile big data analysis model; model construction.

1. Introduction

"Financial investment" is also called "securities investment", and financial investment concept is actually a series of concepts applied to the process of financial investment, including the channels, methods and meanings of financial investment. In financial investment, many economic entities will use a large amount of money to buy stocks, bonds and other financial assets that can obtain great value later in order to obtain the expected income or equity, so financial investment can also be understood as the purchase of financial products investment activities. Nowadays, financial investment has formed a field that occupies an important place in the contemporary socio-economic system, enabling the rapid concentration of idle social funds and becoming the basic form of investment in developed countries [1].

A lot of literature also shows that corporate financial investment is actually corporate financial management behavior and is an integral part of the business and development strategy of the enterprise, so the purpose of corporate financial investment presents diversified characteristics, namely: financial investment activities for the purpose of concentrating idle funds and finding opportunities to obtain income; financial investment activities for the purpose of dispersing business risks; financial investment activities for the purpose of improving asset liquidity, corporate solvency financial investment activities to improve the liquidity of assets and solvency of enterprises; financial investment activities to achieve the expansion of enterprises.

Financial investment is also diversified in terms of investment types and investment products, which can be classified in terms of investment methods, investment time and nature, etc. The specific classification and its characteristics are shown in Table 1. investment products include funds, stocks, bonds, gold, foreign exchange, futures, etc.

Table 1. Classification of financial investment and its characteristics

Classification	Type	Features
According to the way of investment	Direct investment	The demand for funds and the supplier meet directly according to the agreement financing; financing instruments are bonds, stocks; raising funds directly from the society
	Indirect investment	The demand for funds and the supplier do not meet directly, but are financed indirectly through financial institutions; financing is based on bank deposits and bank loans
According to the investment time	Long-term investment	Financial investment activities with an investment period of more than one year, such as time deposits of more than one year, stock investment, etc.
	Short-term investment	Financial investment activities with a maturity of less than one year, such as demand deposits and short-term treasury bills, etc., which can be withdrawn at any time.
According to the nature of investment	Fixed-income investments	Stable yields and low risk, such as bank deposits, bonds, etc.
	Non-fixed income investment	Unstable yield and higher risk, such as common stock investment, etc.

2. The importance of building mobile big data analysis model based on financial investment concept

Mobile big data analysis model not only can quickly collect, analyze and process massive data, but also has the characteristics of large data capacity, a wide range of data types that can be analyzed, low value density, fast processing speed and other application advantages, so it is applied to the field of financial investment has a great advantage of data analysis. And based on the concept of financial investment to build mobile big data analysis model is the way to improve the application value of mobile big data analysis model, its importance is mainly reflected in the following aspects.

2.1 Can make investment decisions with foresight

The mobile big data analysis model built based on financial investment concept has more targeted data analysis, statistics, management and processing, so the data information provided by the mobile big data analysis model can play a great guiding role and provide high reference value for investment decisions, thus making investment decisions more forward-looking.

2.2 It can improve the rationalization of enterprise strategy making process

As we all know, financial investment has always been an important part of enterprise management and development strategy, and the mobile big data analysis model built based on the concept of financial investment not only serves the financial investment decision making, but also serves the enterprise management and development strategy making, so many enterprises, especially financial enterprises, need the mobile big data analysis model to provide reliable data information as a basis for their management and development strategy making, in order to Ensure the rationalization of enterprise strategy formulation process, so as to improve the scientificity and rationality of enterprise strategy.

2.3 Provide a reliable basis for business strategy adjustment

Based on the concept of financial investment, the mobile big data analysis model itself has the function of market analysis, which can quickly collect various data information after the market changes, and then provide the basis for the enterprise business strategy to ensure the rationality of the enterprise business strategy adjustment. For example, the mobile big data analysis model can quickly collect and count multi-dimensional data information such as time, location and user behavior, and

then analyze the real situation of the market from more angles on that basis, and finally provide data information for the enterprise, so that the enterprise can adjust its business strategy timely according to the market changes [2].

2.4 Can improve user experience and capital turnover rate

Financial investment requires an agreement between the demander of funds and the supplier of funds and the completion of financing before it can be considered a complete financial investment activity, so it is necessary to analyze user characteristics and behaviors, capital turnover, etc. in the process of financial investment. The mobile big data analysis model built based on the concept of financial investment has the function of user data information analysis, which can quickly analyze the user characteristics, user behavior and capital turnover, and can simulate the market transaction scenario, and quickly establish the user labeling system (including basic attributes, behavioral characteristics, social network, purchasing ability, etc.) with the support of machine learning model, and finally provide personalized services to users and improve the user experience and capital turnover. Improve user experience and capital turnover rate.

3. Technical basis and method of building mobile big data analysis model based on financial investment concept

3.1 Technology and model foundation

(1) Unified user identification technology. This technology integrates data from PC and mobile of multiple channels, so it can integrate Internet user data from different channels and provide unique identification for user portrait formation.

(2) Real-time collection module. It is one of the basic modules of the mobile big data analysis model, with the characteristics of small CPU and memory consumption, and can quickly collect data and send them to the receiving end in real time, and then the control center of the receiving end will analyze and process the data. However, the "real-time acquisition module" also has some shortcomings, such as bugs in the data acquisition framework, instability, data loss and other undesirable phenomena, so when using this module, it is necessary to use the acquisition tool cotail written in the scripting language python to improve the stability and security of data acquisition [3].

(3) Analysis and processing model. This model is one of the core technologies of the mobile big data analysis model, which consists of is data source module, data cleaning module, data identification module, portrait module, and data mart module, and the functions of different modules are different, as shown in Table 2.

Table 2. Analytical processing model component modules and their functions [4]

Component modules	Module functions
Data source module	Acquisition and storage of raw data sets
Data cleaning module	Cleaning data, temporary storage of cleaned normative data
Data identification module	Matching and identifying the knowledge base in the data, and then forming labeled data
Portrait module	Merge and manipulate different users' attributes and data, and form attribute labels
Data mart module	Store platform portraits and other data

(4) Algorithm model. It is also the core of the mobile big data analysis model, which is an algorithm model built based on algorithm weights. There are many algorithms in this model, including quantitative statistical method, expert evaluation method, pairwise comparison method, etc., which can meet various data calculation, statistics and analysis requirements. The algorithmic model can

also establish a mathematical model with the help of relevant data and form a decay algorithm, then obtain the decay algorithm common factor, and finally realize the efficient processing of massive data.

3.2 Data flow process of the model

The mobile big data analysis model built based on the concept of financial investment can quickly establish the user behavior relationship system, data analysis and processing system through the Internet, with the support of big data hadoop series framework processing technology and distributed crawler technology, etc. can also establish a high reserve of distributed storage system, distributed computing platform, distributed database, etc., so as to achieve a variety of data and a large amount of data. The process of data flow is as follows:

The process of data flow is as follows: crawling user data with high activity (as the original data) by using crawler technology → accessing data from three parties such as inmobi and mango to supplement the original data → using hadoop series big data analysis platform to process data by ETL and data mining algorithm → forming the basic database → and optimizing the basic database function by hand → providing data for users [5].

3.3 Model construction

(1) Determine the model functions such as data collection function, data cleaning function, data processing function, data visualization function, etc. according to the characteristics and requirements of financial investment behavior, and obtain the data value.

(2) Targeted analysis of data according to the needs of financial investment decision data, in order to obtain and high reliability of the analysis results, to provide a reliable basis for financial investment decision-making.

(3) Construct mobile big data analysis model with the help of various analysis technologies and tools (such as the unified user identification technology mentioned above, real-time acquisition module, analysis processing model, algorithm model, big data hadoop series framework processing technology and distributed crawler technology, etc.) and develop exclusive online APP as much as possible to achieve rapid collection of market data information, user data information, etc., and then transform the original data into pictorial data through deep learning algorithms, and finally establish mathematical modeling quickly by incorporating investment logic, aggregated information and classified information, so as to realize the collection, statistics, analysis, management, processing and prediction of different financial investment data [6]. Taking investment prediction as an example, online APP behavior data and offline scene activity data (as raw data) can be acquired first, then the acquired data can be transformed into portrait data with the help of deep learning technology, and finally the prediction of different investment data can be achieved by incorporating investment logic, aggregated information and categorical information to quickly model, and the investment prediction architecture of mobile big data analytics model is shown in Figure 1.

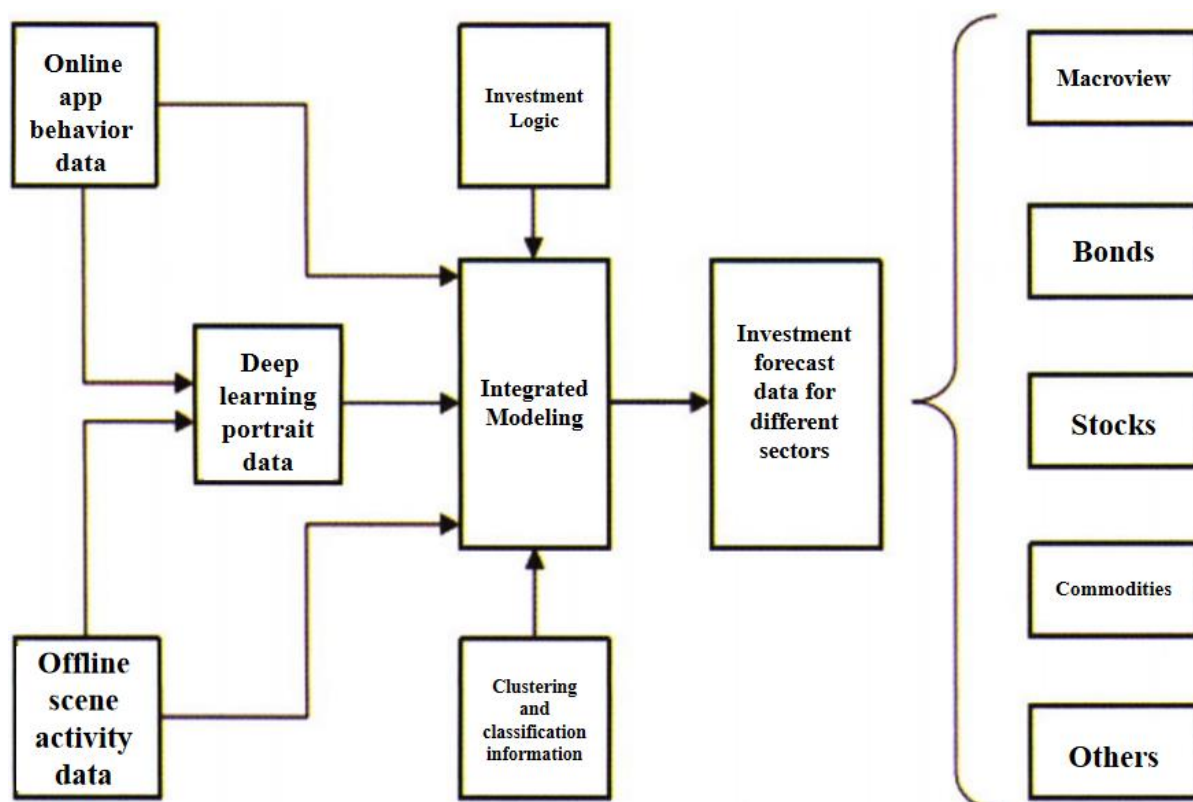


Figure 1. Investment prediction architecture of mobile big data analysis model

(3) Improve the data processing process. In addition to data collection, data pre-processing, data storage and statistical analysis, it is also necessary to improve the data screening and selection (screening and selection can be done through algorithmic models), data batch cleaning, data feedback, program implementation, decision support and information mining processes, of which data information mining machine learning techniques, deep learning algorithm techniques, and data visualization techniques are applied [7]. The data processing flow of the model is shown in Figure 2.

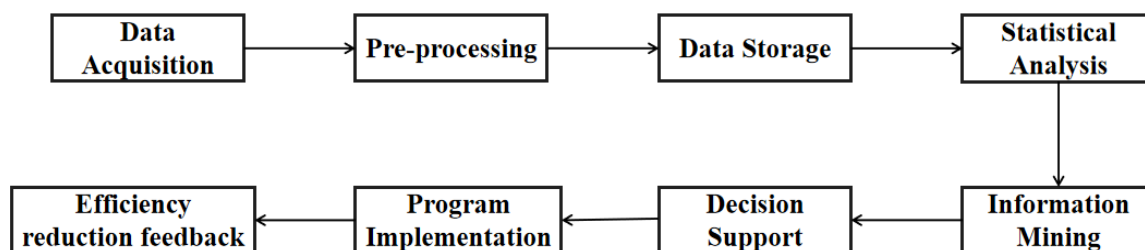


Figure 2. Data processing process of mobile big data analysis model

4. Typical applications of mobile big data analysis model based on financial investment concept

First, new macroeconomic indicators are provided. Including regional financial market economic indicators (including economic indicators in securities, bank credit, futures, etc.), financial investment indicators (including long-term investment, short-term investment and other related indicators), etc. Second, promote industry boom research. Using mobile big data analysis model to integrate and summarize the industry boom, social and economic phenomena and development trends, production and operation and efficiency among enterprises in the same industry, and the development direction of the whole industry, etc., and then on that basis, statistical prediction of industry boom indicators, including the overall level of the industry, changes in the industry structure, changes in the index of employees in the industry, etc., to provide a data basis for financial investment decisions in the industry

[8]. Thirdly, it can be used in the analysis of stock fundamentals. For example, the basic trend of securities prices, individual stock price prediction, and stock market forecast can be analyzed and predicted by the mobile big data analysis model based on financial investment concepts. Fourth, it can be used to assist commodity research. Many commodity market collocation will be affected by international situation, macro policy regulation, supply and demand market changes, external price fluctuations and other factors, and face many challenges, while the application of mobile big data analysis model can quickly obtain a variety of market information, product information and enterprise information (such as enterprise start-up rate, shipments, inventory, turnover cycle and other information), providing a commodity research and development This provides a basis for commodity research and development and reduces commodity investment risks [9].

5. Conclusion

The mobile big data analysis model is a product of the big data era, with strong information networking and digitization characteristics, applied to the unified user identification technology, real-time acquisition module, analysis and processing model, algorithm model, big data hadoop series framework processing technology and distributed crawler technology, so it can realize the effective analysis and processing of various data information. The mobile big data analysis model based on financial investment concept can realize the collection, statistics, analysis and processing of massive financial data, so as to provide a reliable basis for financial investment and investment management, and ultimately promote the healthy and sustainable development of the financial industry. Therefore, based on the understanding of financial investment concept and mobile big data analysis model, the above analyzes how to build mobile big data analysis model based on financial investment concept from the aspects of technical foundation, model technology, data flow process and model construction.

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