

# Research on the Construction of Curriculum System of Asset Appraisal Major under AI Automatic Valuation Trend

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**Abstract:** With the application of AI technology in the asset appraisal industry, an asset appraisal platform based on online data collection, conversion and automatic valuation based on artificial intelligence has been established, which can greatly improve the evaluate efficiency of asset appraisal professionals. Due to the late start of asset appraisal major in universities in China, the problem of imperfect curriculum system of asset appraisal major is gradually exposed. Colleges and universities need to reform the current curriculum system, add more courses related to AI automatic valuation technology, and add more practical content, to help students master more evaluation methods, and cultivate new compound asset evaluation talents.

**Keywords:** Asset appraisal, AI technology, Curriculum system.

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## 1. Introduction

With the rapid development of artificial intelligence, the development direction of some industries is changing. At present, some automatic valuation software has appeared in the asset valuation industry that can help appraisers improve their work efficiency. With the continuous improvement of the database and the progress of data processing technology, more and more positions of manually processing data will be replaced by artificial intelligence. Current AI automatic valuation has been able to complete the evaluation of some projects and automatically generate evaluation reports. However, the current asset evaluation curriculum system in colleges and universities has some problems, such as disconnection from the practical practice, lack of practical courses, and imperfect related supporting courses. Therefore, this paper will specifically introduce the problems existing in the current asset appraisal curriculum system, and put forward the reform plan.

## 2. The Current Situation of University Asset Evaluation Curriculum System

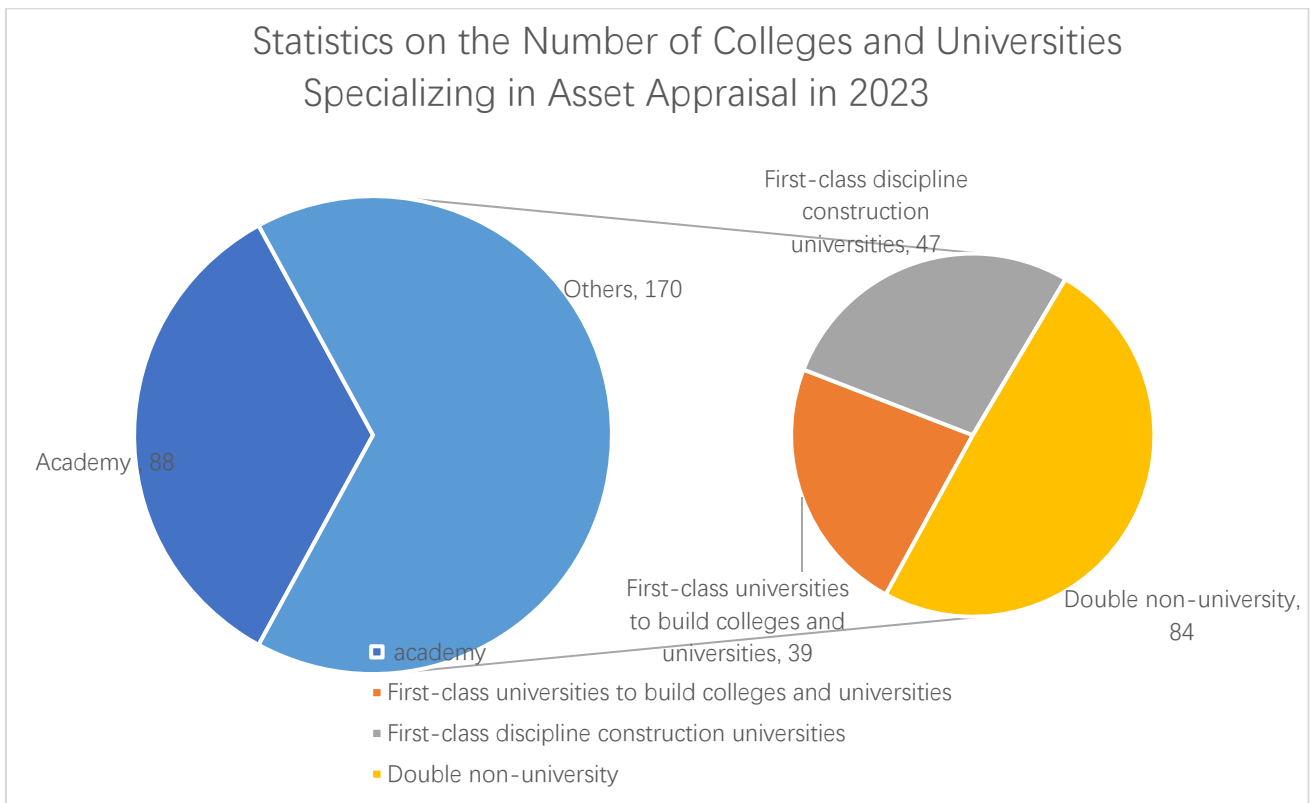
### 2.1. Introduction of the Asset Appraisal Industry

As a professional service, asset appraisal evaluates and estimates single assets, asset portfolio, enterprise value, financial rights and interests, asset loss or other economic rights and interests, and issues an asset appraisal report. It is the product of the development of the market economy, which mainly provides the value basis for the mergers and acquisition, listing and other transactions of enterprises.

China's asset appraisal industry started late, but it developed rapidly. In the process of mixed ownership reform of state-owned enterprises, China Appraisal Society exercised supervision according to law to prevent the loss of state-owned assets in the process of restructuring. In 2006, China implemented the Management Measures for Registered Asset Appraisers to further standardize the training, examination, registration and supervision of registered asset appraisers. With the further expansion of marketization degree, more and more listed enterprises need to evaluate the value of related enterprises in advance in the process of mergers and acquisition. However, at present, the asset evaluation industry is still facing the pain points restricting the development of the industry, such as missing evaluation, wrong evaluation, false evaluation and other problems, as well as the asset evaluation institutions are facing the contradictions and difficulties of efficiency, quality and risk. At the same time, there is currently an increasing demand for the development of professional asset valuation service products in the market, with the new technology, asset appraisal industry has also seen a new round of demand for talents, AI automatic valuation related technology is gradually perfect, asset appraisal industry will be able to further complete the high efficiency, high accuracy, high independence of the industry target.

### 2.2. The Status of Asset Appraisal

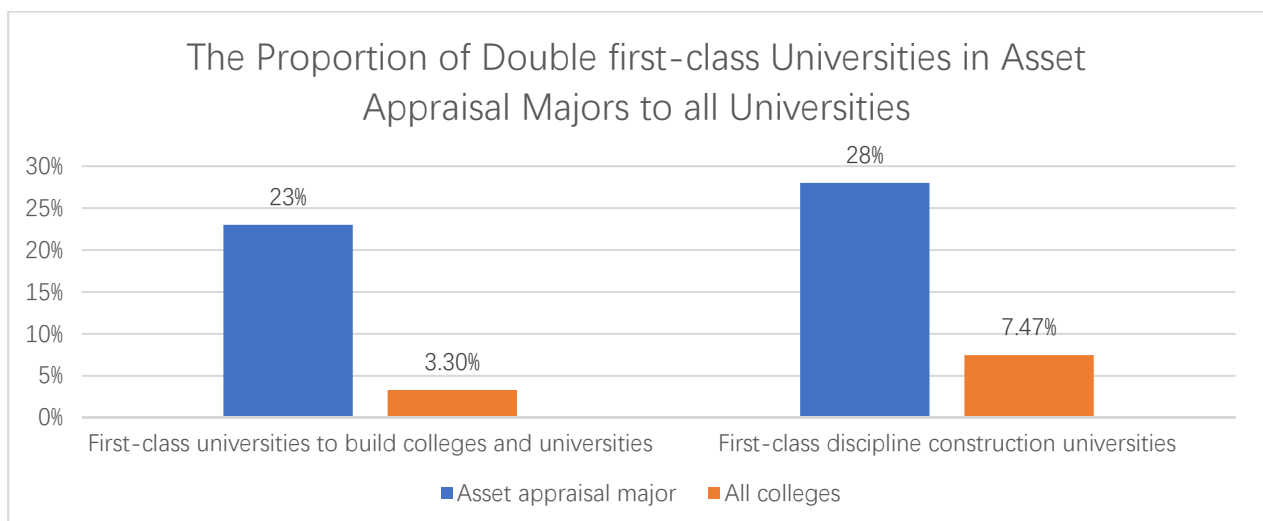
At present, higher education is the main way to transport asset appraisal professionals. According to statistical data (see Figure 1), in 2023, 258 universities will offer asset majors, of which 88 junior colleges will offer asset appraisal majors, accounting for 34% of the total number, and 170 undergraduate colleges will offer asset appraisal majors, accounting for 66% of the total number.



**Figure 1.** Statistics on the Number of Colleges and Universities Specializing in Asset Appraisal in 2023

According to the statistical data (see Figure 1), among the undergraduate colleges offering asset appraisal, 39 are first-class universities, 47 are first-class disciplines, 84 are double non-undergraduate universities, and 41 universities recruit master's degree in asset appraisal. There are 1,272 undergraduate colleges and universities in China, among the construction of first-class universities accounted for 3.30%, the construction of first-class majors accounted for 7.47%, it is far lower than the proportion of double first-class universities that offer asset appraisal majors. As can be learned from the above data, the overall level of colleges and universities in China is relatively high, which has delivered a large number of outstanding talents for the asset appraisal industry. According to the China Appraisal Society, in 2021, 14,252 college asset appraisers, for 33.52%; 23,688 asset

appraisers, for 55.71%; 3,105 asset appraisers, for 7.30%; 129 PhD asset appraisers, for 0.30%, this is inseparable from the rapid development of China's higher education asset evaluation major in recent years. In 2008, Only 18 undergraduate universities in China offered asset appraisal majors, it has now risen to 170. It can be found that the institutions of higher learning in China asset appraisal professional development faster, but the professional time is shorter, part of the university asset appraisal course teaching is still in the exploration stage, professional curriculum system is still not mature. With the continuous development of AI automatic valuation technology, asset appraisal professional need to be completed the reform of the curriculum system.



**Figure 2.** The Proportion of Double first-class Universities in Asset Appraisal Majors to all Universities

Among all the colleges and universities across the country, as the asset appraisal majors belong to different colleges,

there are also certain differences in the basic theory courses offered in various colleges and universities. But overall, the theory courses of asset evaluation conducted by colleges and universities still belong to the category of accounting. In addition to basic accounting, intermediate financial accounting, financial management, auditing, economic law, management, finance, western economics, management accounting and other basic courses in accounting. It also includes asset appraisal foundation, intangible asset appraisal, real estate appraisal, enterprise value appraisal and other asset appraisal professional courses. Students majoring in asset appraisal can study more courses, but in general, they are the relevant theory courses that must be set up around the asset appraisal major. Students can learn more knowledge in this process, which has the potential to become a compound talent. In terms of practical lessons, asset appraisal practice courses are less involved in colleges and universities. Most universities do not open practical courses corresponding to asset appraisal, instead of taking practical courses related to accounting, for example, ERP professional training courses, integrated management laboratory courses. Students learn more in the courses similar to accounting, lack of data collection, data collation and analysis, parameter determination, evaluation value and other practical contents. Students' understanding of asset appraisal is mostly stuck in the theoretical stage, the knowledge learned is more about the principles and related formulas of asset appraisal, the final assessment of the course is only around the relevant theoretical knowledge.

### **2.3. The Pain Point of the Current Asset Evaluation Curriculum System**

With a series of advanced information technologies such as artificial intelligence, big data, cloud computing and blockchain integrated into the asset evaluation practice, the asset evaluation industry has entered the era of "intelligent evaluation" and put forward new requirements for employees. As the main channel for training asset appraisal talents, colleges and universities need to reform the current teaching system of asset appraisal major to solve the following pain points:

#### **2.3.1. The Current Asset Assessment Courses in Colleges and Universities Lack Attention to the Latest Assessment Tools.**

From the perspective of the current situation of university asset evaluation course and asset evaluation industry, the current university asset evaluation course lags behind the development of asset appraisal practice. In recent years, the pace of artificial intelligence has increased exponentially. Up to now, AI automatic valuation has completed more than 3,000 asset appraisal projects. Although some of the data required to complete the project still needs to be collected manually, AI has been able to complete the intelligent integration of financial statements, collation of historical evaluation cases, intelligent associated data, automatic preparation of financial statements and other work. Using AI for valuation can not only improve the accuracy of valuation results, but also greatly avoid human intervention in the process of valuation and data collection, so as to avoid violations such as valuation fraud and false reporting, and improve the objectivity and authority of asset evaluation. Current asset appraisal industry gradually matures, which requires asset appraisal professional students need more professional, technical and integrated, can use of asset

appraisal information technology platform, understand AI automatic valuation of the underlying logic and operation steps skillfully, so that after graduation can quickly master the operation method of AI automatic valuation platform.

#### **2.3.2. The Asset Evaluation Courses in Colleges and Universities Lack the Practical Training for Students.**

Undergraduate students mostly stay in the theoretical stage in the asset appraisal course, and lack the practical teaching specially designed for students majoring in asset appraisal. Students cannot form a concrete assessment mindset, and some schools have problems such as insufficient hardware facilities and teachers. Although some colleges and universities have introduced asset evaluation teaching software, most of the software is not updated in real time, and the version is relatively backward, so it is difficult to help students learn the latest asset evaluation software technology and related standards. Current assets evaluation teaching content is wide and empty, students to learn many theory courses, more attention to the theoretical formula and method of teaching, lack of asset evaluation process, data analysis process, students in the actual work need to spend a lot of time learning to collect data and understand the parameters, in the analysis of data stage, students will only use a fixed assessment template, lack of their different evaluation object data judgment and adjustment, this has also resulted in some students after graduation unable to adapt to the relevant assessment work, still need to accumulate experience at the grassroots level.

#### **2.3.3. The theory teaching of university asset evaluation is mainly biased towards the traditional manufacturing enterprises**

With the pace of economic development, more and more financial enterprises, high-tech information technology enterprises and Internet enterprises need the participation of asset evaluation. At the same time, new enterprises are gradually turning to asset-light operation mode, digital transformation and highly leveraged capital structure. The traditional asset evaluation method based on the cost method is no longer applicable, and students need to understand the updated asset evaluation method. In recent years, due to the rapid development of real estate, the enterprise investment real estate share is increasing year by year. Due to the influence of the economic environment, the real estate prices are highly variable, needing in real-time reflect the impairment losses in accounting treatment, avoiding related enterprises larger financial risk, it requires relevant practitioners to master the overall price trend of the real estate market. In the teaching of real estate appraisal, more case studies and industry analysis can be added to help students understand the relationship between land finance, economic environment and public demand and the mechanism of these three affecting real estate prices.

## **3. Construction of the Asset Appraisal Professional Course Based on The Automatic Valuation Trend**

### **3.1. Application of AI in the asset appraisal industry**

In 2021, China Asset Appraisal Association issued the Development Plan of the Asset Appraisal Industry during the 14th Five-Year Plan Period, which points out the following

development goals: improving the professional theoretical system of the asset appraisal industry and reflecting the Chinese characteristics of Xi Jinping in the new era; the quality of the asset appraisal industry; the consolidation of the asset appraisal industry, the innovation and expanding of the service field; the basic construction of the information system of the asset appraisal and the improvement of the efficiency of practice. At present, the AI automatic valuation technology has been fully applied in the industry, implements the Internet big data synergy mode of enterprise overall asset value evaluation, using the Internet, big data, artificial intelligence technology to realize enterprise many assets online synergy, unified project management, asset evaluation data conversion, distributed automatic valuation report generation, big data automatic valuation, data mining and analysis, and other functions. So far, more than 3,000 asset evaluation projects have been completed. Through the post-test, it can be found that the error rate of the evaluation projects using AI valuation has been significantly reduced, and the online digital platform can also automatically allocate corresponding appraisers, which greatly improves the efficiency of the evaluation work. The use of blockchain technology can prevent others from tampering and miscorrecting after the data upload platform, avoid the occurrence of fraud, and improve the objectivity and authenticity of asset evaluation.

In the process of AI automatic valuation, AI valuation technology has realized the Internet, intelligent asset evaluation operation methods and models. By proposing the financial evaluation data conversion platform technology based on big data technology, the asset evaluation industry database system and online asset valuation pricing technology based on multi-source data acquisition technology, completing the distributed data collection, historical appraisal case collation, data cleaning, data storage process online. Through big data, machine learning, artificial intelligence technology to complete various asset evaluation projects: including real estate, second-hand cars, office buildings, machinery and equipment, land, etc., finally, writing the distributed asset evaluation report online.

AI valuation is not just about automated valuation technology that uses big data and artificial intelligence, mature AI automatic valuation technology is like a complete supply chain, upstream needs cloud survey, blockchain, face recognition technology, GPS positioning, handwriting recognition technology and others to assist asset appraisers in collecting data, completing the survey and upload data, downstream requires AI to complete automatic valuation and generate evaluation reports. During this process, it maintains the independence of the asset appraisal. Therefore, in asset appraisal industry in the future, more professional asset appraisal practitioners are needed to assist the AI in completing valuation projects and checking the data, in a manner of speaking, the application of AI automatic valuation technology poses a great challenge to the reform of the education system of university asset evaluation major.

### **3.2. Basic theory curriculum system**

From the perspective of the basic theory courses of asset appraisal, although the AI valuation technology is relatively mature at present, the students in the department of asset appraisal still need to learn the basic theory courses related to asset appraisal, such as accounting, auditing, financial management, finance, etc. Learning these basic theory courses can not only help students to understand the

evaluation process of asset evaluation, but also help students to realize the operation mechanism of enterprises and understand the underlying logic of asset evaluation. In the early stage of the asset appraisal process, asset appraisal personnel need to understand the general situation of the company and the industry, at the same time need to pay attention to the company's accounting information quality and audit report, in the process of enterprise value evaluation, a lot of data comes from the company's financial reports, if the financial reports problem, so the evaluation of the enterprise value is not accurate, it requires asset appraisal students to have a higher level of financial literacy, at the same time understand the audit, accounting and management knowledge, understand the industry and assess the relevant data. Under the trend of AI automatic valuation, students need to master how to operate the AI automatic valuation system, understand the formation process of AI valuation system, learn to train the system, expand the internal database of the system, and add different valuation models to deal with different valuation scenarios. Therefore, students also need to learn big data theory and fundamentals, Python, artificial intelligence foundation and other related courses to help them understand the birth and practical application of relevant new technologies.

From the perspective of asset appraisal professional courses, colleges and universities generally set up multiple asset appraisal courses, including the basis of asset appraisal, real estate appraisal, intangible asset appraisal, enterprise value appraisal, etc. Considering the wide number of subjects, colleges and universities need to weigh the details in the selection of specialized courses, such as reducing the courses on valuation of machinery and equipment, and increasing the courses of enterprise value evaluation and intangible asset value evaluation. As an interdisciplinary and comprehensive course, asset appraisal involves a wide range of fields, and it is difficult for universities to set up special courses for each asset. Therefore, students can be guided to understand the relevant knowledge independently through lectures. For example, in China, there is a qualification examination for registered jewelry asset appraisers. Colleges and universities can hire teachers from art colleges or with relevant qualifications to hold relevant lectures, and attract students interested in this examination to participate in it. Under the trend of AI automatic valuation, big data can easily match similar fixed assets. As the functional differences between fixed assets of the same type are small, the value of similar data existing in the database is more accurate after using the comparative method. However, it is difficult to determine the future income brought by intangible assets, which requires asset appraisers to make a professional judgment on the market environment and risk coefficient. Therefore, AI automatic valuation cannot be used in the evaluation of intangible assets, and professionals with relevant experience are still needed to participate in the valuation. Similarly, jewelry and jade, antiques, calligraphy and painting. Although the database can match the valuation of similar items, AI cannot identify and quantify the authenticity, appearance, historical status and artistic value of the items, so these industries still need to have relevant qualifications.

### **3.3. AI technology-related courses and practical training**

After completing the theoretical course, students need to

have a deep understanding of the relevant knowledge and operation methods of AI automatic valuation technology. They can adopt the semi-theoretical and semi-practical teaching method, that is, to learn the theoretical knowledge and operation methods of half a semester first, and then followed by relevant practical training completed in the digital education center or computer room of the school. In theory teaching, In terms of theoretical teaching, the principles, technical framework, application prospects and usage methods of automatic AI valuation should be introduced in detail, and a basic course on big data should be introduced as a supplement., conditional schools can open programming and big data related elective courses, such as Python, statistical analysis applications of big data, to help students to collect and process data, self-directed for students to learn AI automatic valuation to lay a theoretical foundation.

In practical teaching, colleges and universities should specially offer the course of "Asset Appraisal Case Analysis", and hire professional asset appraisal practitioners to introduce the asset appraisal process and the key matters in practice. In this course, more emphasis should be paid on learning practical content. The textbook can include asset appraisal reports of enterprises and related preparation materials of enterprises. At the same time, more kinds of asset appraisal cases should be introduced to help students understand the meaning and purpose of asset appraisal. As the current AI valuation technology is relatively mature, in practical teaching, teachers should demonstrate the use method and process of AI automatic valuation platform, and guide students to gradually complete the process of each asset evaluation. Finally, teachers can let students use a learned asset appraisal tool to complete a case appraisal as the closing examination, to strengthen students' impression of the asset appraisal process. In practical teaching, students can not only analyze and judge the results of AI evaluation, but also compare the application of traditional asset evaluation tools and AI automatic valuation in the same valuation case, so as to understand the advantages and disadvantages of the two evaluation methods by comparing the differences in the final results. In this process, students can not only understand the process of asset evaluation, cultivate their own data processing and analysis ability, but also cultivate the spirit of teamwork in the team.

### **3.4. Other Extended Courses**

#### **3.4.1. Investment Principles**

An important aspect of asset appraisal is enterprise value appraisal, in which enterprise value usually has two dimensions: market value and appraisal value. After students independently evaluate the value of the enterprise, they may have doubts about the huge difference between the market value and the evaluation value of the enterprise. Since China's securities market is a weak and efficient market, the difference between the two may represent potential investment opportunities, but also be affected by the policy and macro environment as well as the subjective judgment of investors. Therefore, students need to have rational investment mindset and correct values. Colleges and universities can introduce the "Investment Science" course to cultivate students to be familiar with the relevant theories, laws and regulations and the development course of the modern financial system, master the basic knowledge and analysis methods of investment science, understand the constituent elements of enterprise value, and cultivate

students' ability to conduct scientific investment analysis and decision-making, investment management and regulation. In addition, students can also use the artificial intelligence-based valuation method to combine the enterprise financial statements to quickly evaluate the enterprise value. With the support of big data, they can improve efficiency, understand the current capital market environment faster, and explore the difference between the enterprise market value and the evaluation value by combining macro policies and economic factors.

#### **3.4.2. Management**

Students can gain a detailed understanding of the operation mode of an enterprise by learning asset evaluation professional courses and financial management, auditing, accounting, etc. In the process of analyzing the value of the enterprise, through the application of various parameters and formulas, students can understand the role of the assets in the actual operation of the company, understand the advantages and disadvantages of the company's main business and other businesses, and judge the impact of the development stage of the company and the current economic environment on the company. After completing the enterprise value evaluation, students can also know whether certain assets and liabilities of the enterprise are potentially dragging down the enterprise value through the impact of various parameters in the evaluation process. Through learning "Management", students can tailor reform plans for some problem enterprises, which helps them identify some inefficient assets, departments, businesses and high-risk bonds, theoretically analyze the reasons for inefficient development of enterprises, and give advice for problem enterprises.

## **4. Conclusion**

At present, the asset evaluation courses in colleges and universities have some problems, such as disconnection from the actual practice, lacking of practical courses, neglecting of the latest technology and imperfect related supporting courses. With the use of AI technology in the asset appraisal industry, it has established a online data collection, conversion and automatic valuation of asset evaluation platform, greatly improving the efficiency of asset evaluation professionals, which requires asset appraisal professional to pay more attention to the latest technology, ensuring that students can master AI automatic valuation technology before graduation. Therefore, colleges and universities need to formulate corresponding reform policies, improve the current curriculum system, add more content with big data and artificial intelligence to the theoretical course, and add elective courses such as programming, big data analysis, jewelry and jade evaluation. In terms of practice teaching, colleges and universities need to help students be familiar with asset evaluation industry rules and processes, guide students to master the use of AI automatic valuation platform, including data collection, parameter selection, automatic valuation and report writing steps, through the teaching and practice of new technology, students can be helped to complete the transition from school to work scenarios. Finally, colleges and universities can expand other theoretical courses, such as investment and management, help students master more comprehensive skills and expand other asset appraisal related services, which is conducive to cultivating students to become compound asset appraisal professionals.

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