

## Research Article

# Designing a Renewal Approach of Rejuvenating Historic Districts: Taking Nantong Temple Street as an Example

Haiyan Gu <sup>1</sup>, Yinan Wei,<sup>2</sup> and Haichun Zhao<sup>1</sup>

<sup>1</sup>College of Civil Engineering, Yancheng Institute of Technology, Yancheng, Jiangsu 224051, China

<sup>2</sup>AUD Design Consulting Inc, Shanghai 200120, China

Correspondence should be addressed to Haiyan Gu; guhaiyan@ycit.edu.cn

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In recent years, people's opinions have shifted with the continuous development and growth of cities. The category of historical heritage is increasingly being shifted from the city's star fire to the backdrop color of the entire city. However, some cities are experiencing issues such as aging, regeneration, and stagnation. With the merging of sustainable development ideas with urban renewal techniques, sustainable urban renewal has developed as a new area of research. Data mining and analytics have played a significant role in extracting knowledge and decision-making in the revitalization of historic districts during the last decade. Machine learning, as a computational engine for learning analytics, is a fundamental technique for extracting information, data pattern detection, and prediction. From the perspective of machine learning, this study investigates the historical block update approach, which is utilized in feature space and culture at the same time. Furthermore, it investigates the development of countermeasures for injecting new energy into the historical block by using the functions of space and scale to search for the block transformation and the combination of natural and cultural landscapes. In addition, in order to interact with visitors and residents and realize the renewal of old blocks, in this research work, multifunctional culture is grafted into the historical block and buried underground, so that their life can be awakened. To highlight the efficiency of this work, we have taken the Nantong Temple Street in China as an example which verifies the validity of this study.

## 1. Introduction

If we look at the historic district of modern cities, then we revitalize that the city's historic district is a witness to urban development. It is a bridge to preserve historical memory and a mark that depicts the decline of the times. In the process of urban development, historical blocks are the connotation of the city and have important significance. Historical and cultural blocks are like the guardians of a city, not only witnessing the history of the city's development and changes but also reflecting the value of the city's traditional culture. In addition, the city's historic centers play an important role in establishing the historical and cultural characteristics of these locations where the city's roots take shape, as well as the clarity of thinking and the design of the urban fabric and their consequences on the social, cultural, and economical system of communities. It is a bustling urban center activity in the urban center that has historical

worth and continues to the present. Furthermore, the architecture of the urban composition shows the urban incorporation of civilized society, with its religious, governmental, economic, and social associations. To fulfill the demands of modern urban development, these places have been exposed to plenty of political, economic, and physical factors, all of which have had a severe impact on their physical organization, social mixture, and economic structure. Historic districts and associated streets are one of the most essential aspects of historical city centers, putting them at the forefront of places in need of proper policies to deal with their challenges and ensure their survival for future generations. They are not only a method of communication and accessibility between different areas of the city but also a reflection of the city's economic and social zones. For these reasons, the research investigates historical commercial zones and methods of preserving them within an integrated framework.

If we look into the recent development of historic districts, several nations have launched a fresh round of development projects for history and contemporary blocks. These objectives can only be met by introducing greater intelligence into the industrial operation. The United States government has suggested new industrial Internet architecture to help build the next era of production. Besides the USA, Japan has announced an industrial revival strategy. Germany introduces the theory of Industry 4.0, the primary goal of which is to construct smart factories capable of manufacturing smart products. Likewise, China has just launched a new industrial strategy called China Production 2025, to make the production process smarter. The process of revitalizing historic districts has become an essential aspect of our society's growth and production, which needs to be reformulated in the era of modern digital technology. How to increase organizational learning and collect effective knowledge is critical in all aspects of the revitalization of historic districts, including sustainable design, system integration, enhanced process, quality assurance, and predictive modeling. Data mining and analytics, from the standpoint of automation, may act as a fundamental instrument to boost the process of reviving historic districts from machine automation to information automation and finally to knowledge automation. Many scholars have paid considerable attention to this area for this purpose.

Nonetheless, over the years, numerous studies have sought to reliably quantify a city's appearance on a larger scale [1]. The most common way is to deploy human investigators into the field to examine and report the look of the city [2]. However, owing to its manual character, this approach is relatively restricted in terms of sampling because it is intrinsically costly and has minimal economies of scale. The current availability of online street view pictures with unprecedentedly broad coverage of the built environment opens up a new methodological option for this issue [3]. When integrated with computer vision techniques, massive automatic evaluation of numerous high-level judgments of the urban environment is possible [4].

However, with the continuous improvement of the Chinese urbanization level, the historical blocks in cities have become a major issue. Many cities have utilized the practice of blind destruction to deal with ancient structures in the block, and it appears that they are eager to bid farewell to the old cities in this manner. Nowadays, with the improvement of people's living standards and the gradual improvement of the spiritual level, the development of historical blocks carrying urban culture has also received more attention. In the process of rapid development of the city, Nantong Temple Street has experienced the problem of aging and updating, and stagnation. This study takes Nantong Temple Street as an example and seeks to update the historical districts with new vitality in the new era [5–7]. The main contributions of this research paper are listed as follows:

- (1) First, this study investigates the historical block update approach from the perspective of machine learning, which is utilized in feature space and culture at the same time.

- (2) Second, it investigates the development of countermeasures for injecting new energy into the historical block by using the function of space, scale in the search for the block transformation, the combination of the natural and cultural landscapes, and the combination of the natural and cultural landscapes.
- (3) Third, by using Nantong Temple Street as an example, this study tries to revitalize historical areas with fresh life in the modern period.

The following are the remaining sections of this paper. Section 2 provides a detailed study of the research and present situation of urban historical blocks. Section 3 is the revitalizing historic district renewal methodology. Section 4 explains our methods for rebuilding Nantong Temple Street blocks, and Section 5 concludes this paper's work.

## 2. Research and Current Status of Urban Historical Blocks

*2.1. Research and Analysis of Historical Blocks Abroad.* The pace of protection and renewal of historical blocks in foreign countries started after the Second World War due to the massive urban reconstruction. At that time, many scholars began to study and analyze various aspects based on historical background and historical blocks. The "Venice Charter", which was adopted in Italy afterward, brought the public's attention to the protection of historical blocks [8, 9]. The 1787 "Washington Charter" is another powerful addition to the protection of historic neighborhoods [10, 11]. The government and the public realize that the protection of historical blocks is not only the protection of the building surface but also its environmental features and its cultural connotation. It started with the concept of Kevin McCourt's "through the sale of souvenirs, the holding of festivals and the design activities of street art installations" [12]. Many foreign blocks have achieved entertainment and understanding of the value of the cultural heritage of historical blocks through various methods. The development of foreign historical blocks has also started to get on track. In the following "Revitalizing Historic Urban Quarters", Steven Thiesdell discussed the key points of the renovation and renewal of historic blocks [13]. He analyzed and pointed out that the sense of place and identity of historical blocks are the main contradictions in the renovation of the blocks. He also combined the relevant cases in Europe and North America to summarize the development of tourism culture and the protection of residential texture and other diversity update methods. The concept of people-oriented and cultural heritage has gradually become the basis for the dynamic update method of historical blocks.

Western scholars generally agreed in the discussion on the renewal of historical blocks that it is not advisable to adopt "museumized" static protection to protect the rare value of historical blocks. On the one hand, museum-style static protection cannot truly realize the value of historical blocks. On the other hand, the absolute overall static protection will make the street texture and social structure rigid

and not conducive to the long-term development of historical blocks. The renovation and transformation of historical blocks are considered to be an effective way to promote land value, improve environmental quality, govern urban decline, achieve various social and economic goals, and strengthen social network relationships. It is a means of protecting the remains of urban architecture and a modern trend of urban development. However, the strategy of updating historical blocks with tourism development and cultural introduction as the main means is mixed [14].

### 2.2. Research and Analysis of Domestic Historical Blocks.

The rapid development of urban construction today has caused tremendous pressure on the continuation and development of urban historical and cultural traditions. The protection and inheritance of historical and cultural traditions are in harmony with the development of the times and social progress, which has become an important issue that must be studied in the development of urban construction. Relatively speaking, China's urban renewal theory research started late. In the early days of reform and opening-up, China's urban renewal theory was more influenced by Western modernist theories. Until the 1980s, Academician Wu Liangyong proposed the "organic renewal" theory, which was used to guide the transformation of Jouer Hutong in 1987 [15]. Chinese urban renewal theory has opened the road to localization. However, due to the initial stage of reform and opening-up, China's urbanization level is still low. Therefore, in the upsurge of urban construction in the 1980s, urban development was still mainly based on the expansion of urban scale and the construction and development of new districts, while less attention was paid to the renovation and transformation of old urban areas. In response to the challenges caused by the 1980s' rapid urban development, China has implemented a series of regulatory rules to tighten land policy since the 1990s [16]. Many cities started with the transformation of old cities and started the process of integration and reconstruction of urban internal spaces. The reconstruction of the old city has gradually become a hot topic of concern for domestic scholars, and the research on the renewal of the old city has also gradually enriched [17].

Since China's research on historical blocks started relatively late, many problems still exist. But at the beginning of the deepening of the concept of adding people and nature with the economy as the core, it gradually turned to today's planning concept that considers the continuation of the city's historical context. In recent years, many domestic scholars have developed, utilized, renovated, and updated urban historical blocks through the protection and planning of urban historical blocks. These historical blocks are based on the precipitation of historical culture, created from the recognition and perception of the people, and then become a vibrant historical and cultural carrier [18]. Many blocks began to develop tourism in the face of profitable opportunities. It seems to promote traditional culture, but many projects and facilities developed during the implementation process are blindly replicable and incompatible with the

local culture. Such development is blind and inefficient. The economic returns of the tourism industry developed by local governments at the expense of local cultural features are quite limited. Blind follow-up reforms in some historical blocks have squeezed people's lives while not improving the lives of residents. Whether from the perspective of urban renewal theory guidance or the inherent requirements of the development of urban sociology, we must base ourselves on local urban renewal practices in the context of globalized urban development. We summarize the experience of the renewal of Chinese historical blocks, extract beneficial inspiration from local practice, and form localization thinking about the renewal of historical blocks [18].

### 2.3. Status and Problems of Temple Street.

Nantong Old Town is an ancient city with a long history, which began in 956 AD. Temple Street Blocks are the existing rigorously planned rural buildings in Nantong. In the urban texture of the streets, historical buildings are lined up. The overall planning pattern of the old city is based on the traditional Chinese urban layout rules. According to its own geographical and natural conditions, it creates an old city form that emphasizes the order form and emphasizes the layout of the grid-field grid city with the central axis. The northwest area is Temple Street, the earliest and most historic neighborhood in Nantong. Temple Street is located in the central area of Nantong Old Town. It is east of Nantong Middle School, south to Renmin Road, west to Huancheng West Road, along Guandi Street, north to Huancheng North Road shops, adjacent to Nantong Commercial Center South Street huge. The nearby schools and landscape public areas are well configured, but their renewal has stalled, leaving the pace of urban renewal. At present, there is no parking lot at Temple Street, and only the public parking spaces on the west side of Huancheng West Road and the north of Huancheng North Road are available. The surrounding architectural styles are dominated by modernist high-rise buildings with an average number of about ten floors, and some modern residences. Temple Street is mainly dominated by houses during the Ming and Qing Dynasties; because of the lack of awareness of the protection of buildings, building damage is serious. The blocks in the southeast and northeast areas of the old city were dominated by the twentieth-century wave of old city rebuilding. The remaining Ming and Qing cultural buildings were demolished and replaced by modern multistory houses. Therefore, the memory fragments of the lost city can never be recovered. Therefore, the protection of the existing historical and cultural blocks, Temple Street, has become a particularly important point in urban planning and design.

## 3. Renewal Methodology of Revitalizing Historic Districts

The proposed renewal methodology for revitalizing historic districts based on data mining and analytics is illustrated in this section, with explicit details and conversations in each of the key processes, such as data preparation and

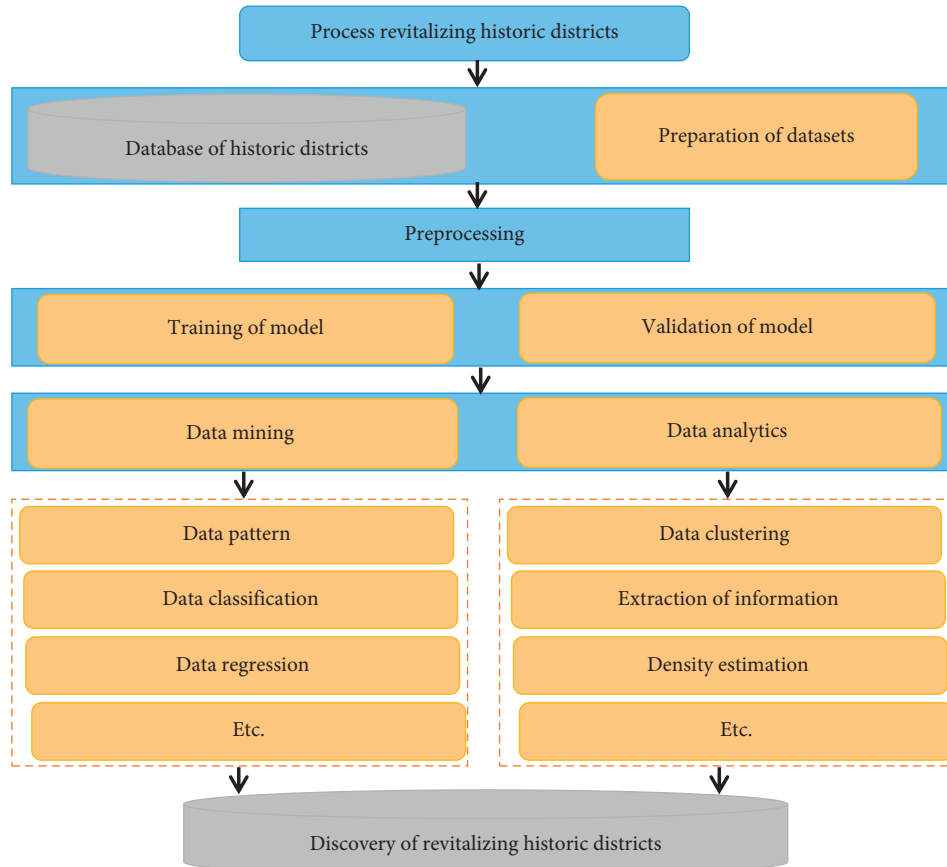


FIGURE 1: Review of revitalizing historic districts in the perception of data mining and analytics.

preprocessing, model selection, training, and performance based on the trained model. It should be mentioned that there are several applications of data mining and analytics in the process of revitalizing historic districts; only a few of the most regularly utilized ones are described here. Figure 1 depicts an insight into the process.

The visualization of data is the first step in the building of a machine learning model. This stage attempts to acquire an understanding of the process data and then pick the most relevant data samples for modeling. The primary responsibilities of this stage are to extract the dataset from the database and to assess the dataset's structure. Following the preparation of the dataset in the preceding stage, data preprocessing is required to enhance the data quality, and certain relevant data modifications may be required to make the data modeling more efficient [19]. Whenever the trained model is complete, we may choose an effective machine learning model for data model creation. The complexity of the data model may be assessed based on an extensive analysis of data attributes. Assume that the machine learning technique has been finished and that the model has been built and verified. The model may now be used for offline and online data mining and analytics, such as data clustering, information extraction, and density estimation, among other things. All of these predicted data mining and analytics findings can help us increase the efficiency and design of the underlying of rehabilitating historic areas.

*3.1. Thoughts on the Update of the Style and Features of the Historical Street in Temple Street, Nantong.* Based on Figure 1, we generated some ideas for updating the design and elements of the historic street Temple Street. Figure 2 depicts the properties of these updated ideas. Our main concern with the planned historical street's architecture and qualities is its preservation. We believed that our methodology would secure the preservation of historical and cultural structures while avoiding undue commercialization. Our second thought is to complete the blood production. Our methodology will ensure that the blood-making function of historical and cultural regions is achieved based on traffic and space. The third and last strategy is the assurance of diversity application, which implies that our model is using the same picture of thousand cities as a warning, from development to a diverse application.

*3.2. Protecting Historical and Cultural Buildings and Avoiding Excessive Commercialization.* Since the 1990s, China has entered an era of large-scale old city transformation. Traditional blocks are often located in the center of the city, with extremely high development and utilization value and considerable economic income, so these traditional blocks have become the plots that developers are scrambling to get. The developers demanded to get the maximum benefits in the shortest time, so they did not study the cultural history of



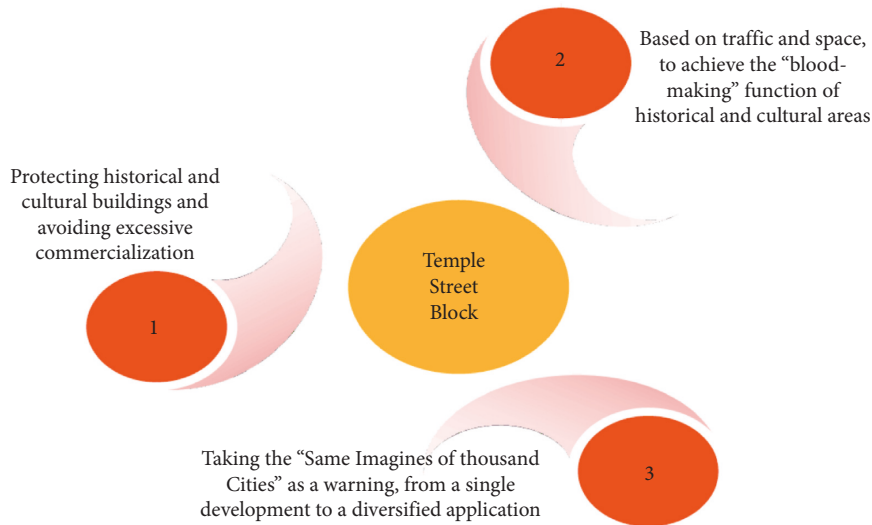


FIGURE 2: Update of the style and features of the historical street in Temple Street Blocks.

the block in-depth, nor did they fully understand the views of the residents in the block. They just blindly arrogantly carried out the “bulldozer-style” demolishing and reconstruction of traditional blocks. The urban texture of the old city was gradually engulfed by these “machines”, and the traditional blocks and protected buildings that remained inside were also “shrinking”. “Static protection”, “Ming and Qing streets”, “European style”, “antique style” and so on prevailed for a while, and they flooded many cities in the country. This kind of activity has a great influence on the style of the old city. The functional connotation, street style, building scale, and traffic organization of the development and construction are all incompatible with the original style of the old city, and they live up to the picture of the old city.

Now in the update of certain historical blocks, we have seen a certain religious enthusiasm. People speculate on history and the future through their respective development and extension, creating “hot” antique commercial blocks or abandoning the real objective reality and eager for success. These historical blocks have no chance to live in the present; they are mostly rigid sculptures or tools for commercial rent. The historical blocks have thus lost their original ideas and vitality in the frenzy. However, among the historical blocks still in use, if we calm down and think carefully from the perspective of objective realism, Temple Street is a contradictory complex, and many factors such as material and society, history and reality, development, and protection need to be confronted in it. The transformation of historical blocks is not to treat blocks as cold machines or sculptures. On the contrary, we can abandon preconceived colored glasses, observe the resources of historical blocks with a critical eye, calmly analyze the contradictory reality, and try to create vitality for Temple Street with a modern perspective. It is a historical block that should live in the present moment to seek renewal and development direction. It is feasible to carry out a certain commercial development in the process of transformation, but in the implementation process, such destructive demolition of Temple Street is not

worth the gain. The creation and protection of historical and cultural sensitivity is the core value and soul of the block. Based on preserving the soul of Temple Street, commercial development is a matter of course, based on Nantong and not limited to Nantong to avoid the same as most historical blocks. As a result, the history and culture of Temple Street can be transformed into a “zero-degree block”.

**3.3. Achievement of the “Blood-Making” Function of Historical and Cultural Areas.** The organization of space and traffic is extremely important in the design of the external space of the block. The protection content involved in the Temple Street historical block is complex, and the internal space is also due to the age and the lack of integrity and systemic considerations. The dismantling and construction of illegal structures and untimely maintenance have also accelerated the loss of traditional texture and cultural vitality of the entire space. It thus leads to chaos in the internal space and is incompatible with the surrounding environment. The problems encountered in the protection of historical blocks and the protection of single buildings are essentially different. Encapsulating and protecting the spatial status of blocks such as blocks requires the general protection of blood transfusion. It requires a continuous supply of protection, and simple protection is difficult to promote for a long time and in-depth, so we must cultivate its hemato-poietic ability. It is not simply to pack some historical buildings out of merchants by compressing the original building space but to sort out the discordant buildings and protect and restore the corresponding buildings so that the traditional pattern of the old city memory can be preserved, as shown in Figure 3.

Unlike the protection of ordinary historical buildings, due to the complexity of its conditions and various constraints of the surrounding environment, the conservative protection of historical blocks has exceeded the protection of historical blocks itself. To grasp the problem of Temple

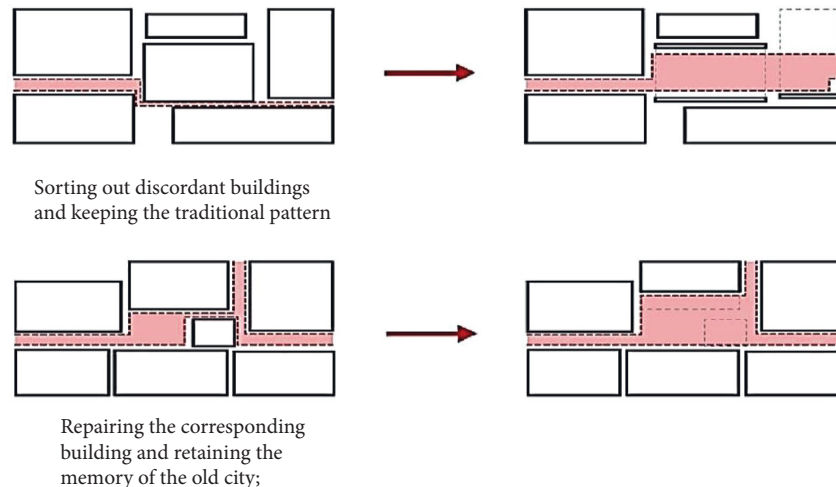


FIGURE 3: Historic building protection.

Street, the government should fully resolve the contradiction between protection and development. The government has restored the conservation of historical blocks in place, based on traffic and space, while creating a style, style, or cultural paradigm that is in line with the local cultural life of Nantong, and its ability to obtain independent “blood-making” is rejuvenated.

3.4. *Taking the “Same Imagines of Thousand Cities” as a Warning, From a Single Development to a Diversified Application.* In the process of rapid urbanization in China, the phenomenon of one thousand cities has already existed widely and has been a concern and criticized by all sectors of society. With the mass replication of stylized protective routines that we are familiar with, the pattern of the thousand streets is rapidly forming, and the characteristic neighborhoods of the north and south are quietly fading from the cultural background of their cities. The trend toward the same style, similar atmosphere, similar functional positioning, and consistent operating model embodies the pale and quick success behind the design methods. As a result, the vitality and developmental power of the historical block have gradually been lost in this process. Historical blocks are an indispensable part of urban development and historical and cultural revival. Today, with the rapid development of the urban economy, the combination of urban development and historical culture provides a triable way for the protection and development of urban historical blocks. The development of the city is not simply the promotion of economic benefits, but more factors such as the legal system, the public, and human history. One-sided pursuit of economic benefits will destroy the historical continuity of traditional old blocks, weaken the competitiveness of urban culture, and finally end the development of historical blocks.

Temple Street’s future protection cannot be based on an apathetic culture devoid of new and stylized models, even though the material form of architecture is the primary bearer of historical knowledge. Building protection must be



FIGURE 4: Well-preserved old building.

realistically split according to distinct particular scenarios. When the government develops protection measures, it must consider the unique features of Nantong and construct a more precise and focused protection activity. Figure 4 shows the existing well-preserved ancient buildings on Temple Street.

#### 4. Renewal Methods of Nantong Temple Street Blocks

Urban renewal is a land redevelopment program that is frequently utilized to remedy urban degradation in cities. Urban regeneration entails the removal of dilapidated regions of inner cities to wipe out slums and make way for greater housing, companies, and other developments. The major goal of urban renewal is to restore a specific area’s economic viability by inviting outside private and governmental investment and promoting company start-ups and sustainability. Figure 5 depicts our renewal method for the style district of Nantong City’s historical street district. We separated our renewal approach into three stages, the most essential of which is the construction of a cultural heritage carrier and the creation of an ambiance of a historical district with a feeling of experience. The second critical stage is comprehending the magnitude of the block change and sorting out the “intimacy” areas. The third stage consists of

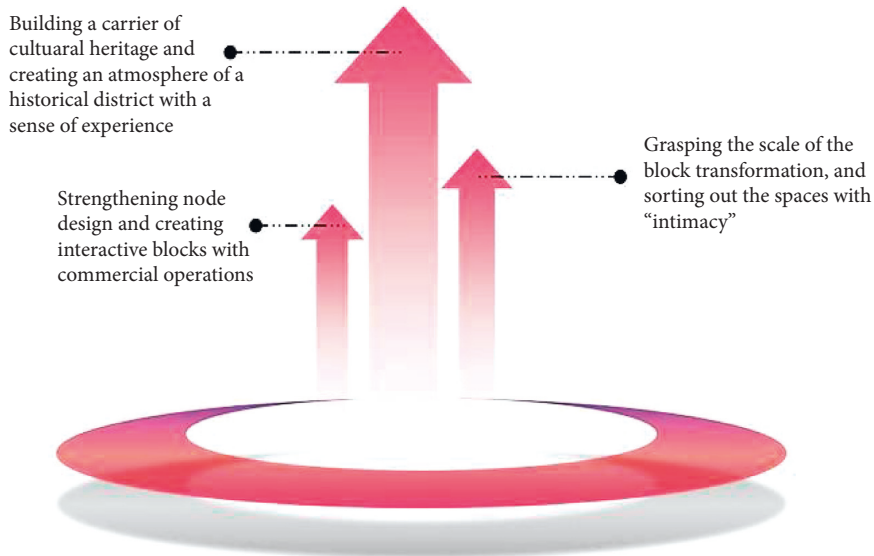


FIGURE 5: Renewal method of the style district of the historical street district of Nantong City.

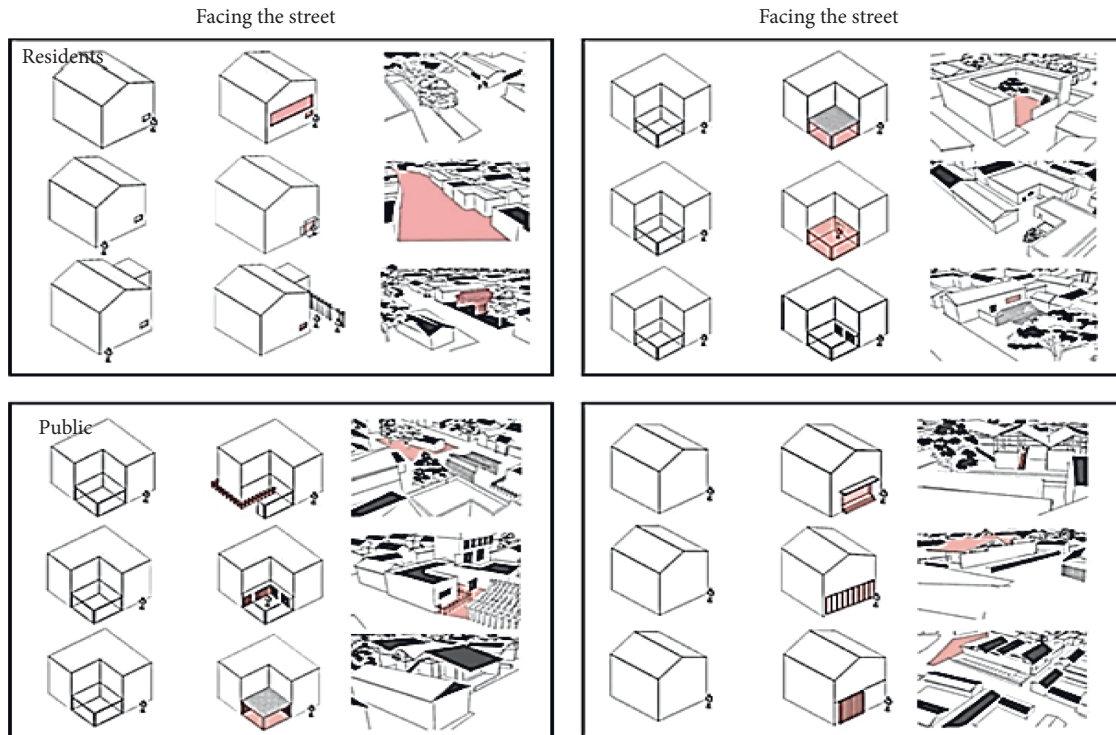


FIGURE 6: Treatment of residential houses and public spaces.

improving node design and developing interactive blocks with commercial operations.

4.1. *Building a Carrier of Cultural Heritage and Creating an Atmosphere of a Historic District with a Sense of Experience.* Figure 6 depicts the treatment of residential houses and public spaces in greater detail. The general style of the historical block, according to this figure, is the entire expression of the block’s creators to their production and lifestyle. When the block is originally made, it frequently

contains the intense creative feelings of its ancestors. A good street style is easily recognized, can elicit people’s emotions and enthusiasm, and is irreplaceable. At the same time, it is integrated into the city’s general style. As a result, preserving the general cultural style of the block and generating an environment of experience is an important objective for the historical block’s renewal and transformation.

In the renewal plan of the historical street of Nantong Temple Street, it needs to rebuild a new cultural carrier with the participation of the government, developers, professional design team, and the public to experience Nantong

culture. Building a platform that can truly experience traditional handicraft skills through weaving, printing, and dyeing blue printed cloth, so that people can participate in various on-site installations that can experience culture: theaters, handicraft workshops, traditional craft points, cultural forums, exhibition spaces, or through the Internet interaction, QR code scanning, etc. Now, the technology gains the charm of Nantong local folk culture in the personal terminal and at the same time increases the display and experience space along the street of shops and inns. It allows traditional craftsmanship to be integrated into the building, allowing people to experience the cultural connotation more intuitively and rejuvenate the neighborhood. Similarly, the doorway is guided by a wooden grille and entrance, and setting an appropriate gray space can also better increase the sense of virtuality and reality of the entire space. Afterward, the specific cultural communication and development of local board harrier kites and other areas are left to display, experience, make, or experience in the block, to inject vivid cultural and folk connotations into the material shell of the historical block. It not only allows the local culture to be implemented in a three-dimensional and concrete way, which allows people or more exquisite experience, but also provides more business opportunities for the original historical blocks.

*4.2. Strengthening Node Design and Creating Interactive Blocks with Commercial Operations.* As we know, with the city's full implementation of "Urban Renovation and Restoration", the management and control of the renewal of historical and cultural blocks also face new opportunities and challenges. Temple Street is a historical block with a century-old history. Nowadays, under the current situation of near run-down, it is necessary to develop business and reinject vitality and then gain new vitality. After having a "blood-making" self-sufficiency industry, the true motivation may be relied on. It should no longer rely just on "transfusion" protection but rather on the administration and supervision of the historical styles of the streets. To investigate the development of spatial nodes and hierarchical relationships of the block's systematic styles and to provide particular spatial components to the structure so that it may produce interactive blocks with commercial operation pairs, it can be a series of industrial chains after letting the traditional commerce or the hematopoietic function of the blocks that witnessed the changes and development of Nantong. The operation of commerce should not be rejected in the historic district. Whether it is a long-established "old time-honored" business model or the addition of modern economic operations based on the characteristics of traditional business, the operation of the business can bring in the absorption of funds and the public's attention. However, the basis of business operations is not just pure symbolic cultural consumption, but the mining of local cultural characteristics and continuous innovation based on them. Temple Street has many historical and cultural buildings such as Guangxiao Pagoda, Tianning Temple, Bell Tower, and Qiaolou. These regional cultures provide huge business opportunities for the development of

Temple Street. It sets an iconic or flagship store-type large node to the entrance and at the different nodes is divided by the binary of stone and wood, and the corresponding structure and partition are set at the same time. Figure 7 explains the details of the handling of shops and inns.

At the same time as attracting people, it can also play a role in traffic distribution. At the same time, the operating income and shops of the studio exhibition hall or accommodation hotel are set up on a path to achieve on-site interaction with tourists and residents. The multifunctional shops are integrated into the historical blocks in the form of cultural complexes. Considering their spatial texture and architectural scale, they plan to create suitable access paths. These scarce historical buildings have a real interactive experience with visitors. And because residents have a deeper affection for the protection of the traditional style of the block, they pay more attention and attention to the management of style. Residents of Temple Street can participate in the construction and development of the block through numerous channels and provide feedback to the street office with their ideas and needs. Tourists and the media can also be employed as international tourists and observers to assess the recognition and satisfaction of the block's node design. At the same time, media promotion can attract more tourists to participate in the renovation and renewal of the style of Temple Street's historical block.

The government carries out unified planning and unified operation of the resources around the protected area, and through the operation of the resources brought by commerce, it achieves the purpose of development during protection to promote protection. The government's leadership or guidance, to connect with the corresponding teams and developers, is combined with the demands of the public and users, to explore a new model of market-based protection, in order to achieve the "hematopoietic" function of the historical and cultural region.

*4.3. Grasping the Scale of the Block Transformation and Sorting Out the Spaces with "Intimacy".* Scale is a criterion for human beings to measure the correlation between the objective world and the subjective world. It refers to the relationship between the perceived image of things and the true size. The block scale is a criterion for people to measure and perceive the block. It is not only a technical tool for explaining and analyzing the urban physical spatial form but also an important evaluation standard for the rationality of urban design schemes. People-oriented has always been the core concept of planning and design, and the safety management and fire prevention measures of the blocks are indispensable. If the intimacy between locals and visitors can be increased, the design of such a historical block will not be indifferent and temperatures will rise. Figure 8 explains the details of street scale analysis.

The government's transformation and continuation of the original space to create a relationship between space and people is the key to solving the problem of space problems. It takes into account the wind and rain, the five senses of people, and then the sense of exquisite scale in the historic



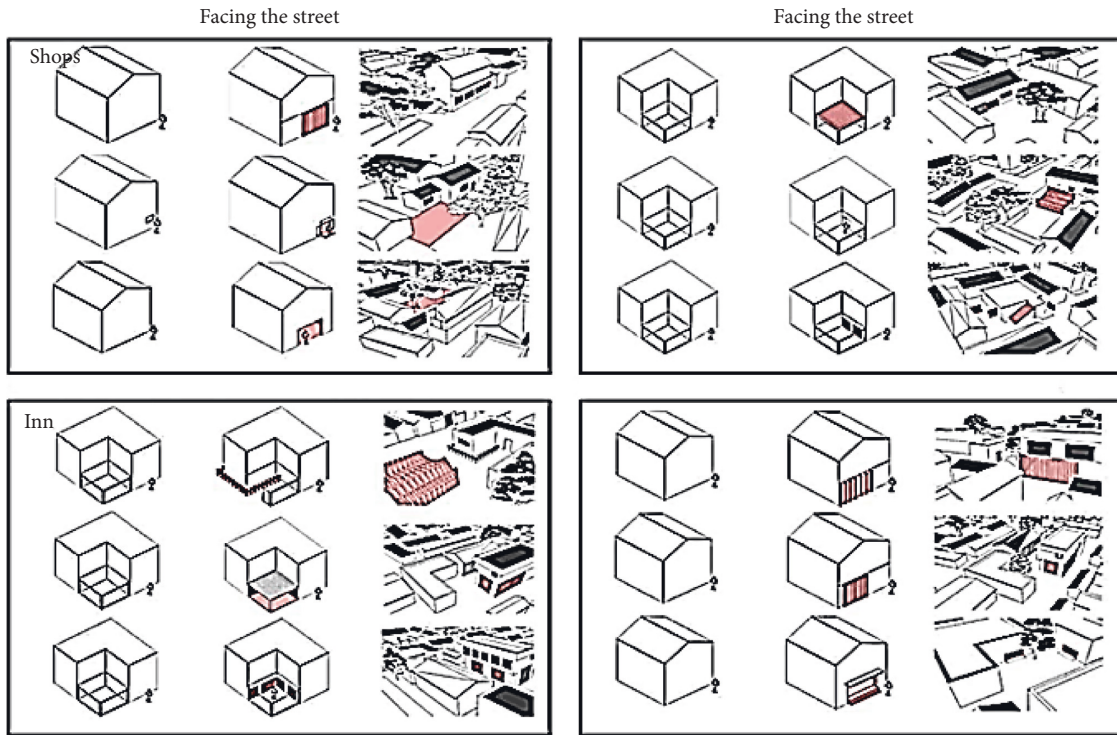


FIGURE 7: Handling of shops and inns.

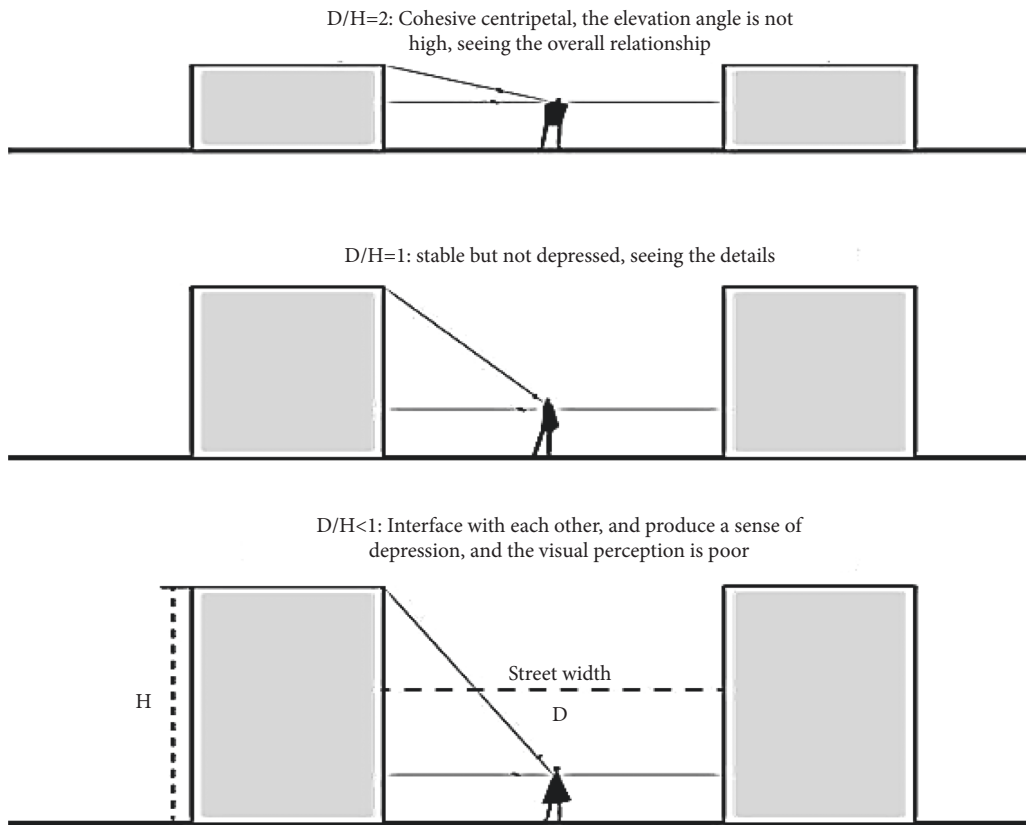


FIGURE 8: Street scale analysis.

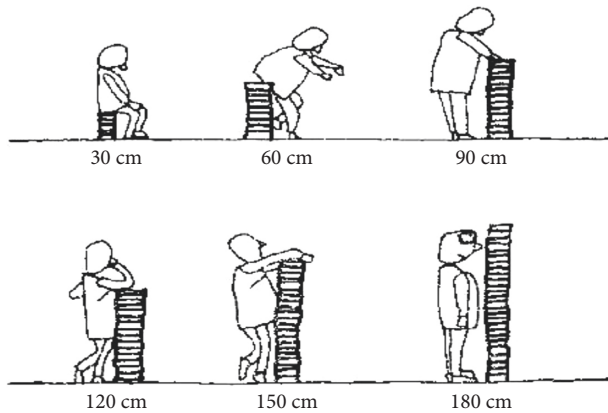


FIGURE 9: Schematic diagram of different partition experiences.

district. When the height of a building exceeds the height of a person, the sense of participation and anticipation in the historic area grows. As a result, the distance between buildings on both sides becomes another important aspect of  $D$  proximity, and more than 1 or equal contact between  $D/H$  can be arranged in the street. If  $D/H < 1$ , then it shows that the two buildings will interfere with each other to produce a sense of depression. If  $D/H = 1$ , then it produces a sense of cohesion and stability but is not suppressed. But, if  $D/H = 2$ , then it produces a feeling of cohesion and centripetal, and not to be excluded Discrete. If  $D/H$  continues to increase, space will gradually lose its enclosing effect.

It is critical to employ these high walls, low walls, straight walls, curved walls, and folding walls to provide people with a diverse sense of space, as well as to order and increase their grasp of the volume of the area. The distance between the temple streets and the proportion of the two sides of the wall may be handled effectively to increase the sense of connection between the spaces without excessively damaging the scale of the lower intimate space in Figure 9.

It is more suitable to reduce the historical block's height and breadth to roughly one, implying that the buildings on both sides are between 7.5 meters and 15 meters tall, with two or three stories. It helps the block's closeness, security, and feeling of the place. The length of the same block is also an important part of the design. According to the normal test, the legs will feel sour when walking from 2600 m to 2700 m, and they will be tired when walking to 4000 m and will be exhausted in Temple Street by 6000 m. It is mainly based on a zigzag circuit and the volume of Temple Street is relatively small compared to other large blocks, so it is mainly considered to be a near-neighbor-type block renovation of 200 m to 300 m and regional block reform of 500 m to 600 m. The interior of Temple Street is divided by the 30 cm or 60 cm low wall area, the 90 cm is separated by rest, and the 120 cm or 150 cm or 180 cm space partition gives people a different spatial experience.

## 5. Conclusion

The residential area around Temple Street is a place where local cultural characteristics condense, and it is also a place

where the local context remains. The few historical blocks that have not been overexploited are where the historical culture of Nantong lies. How to abandon the short-sighted economy and calmly deal with capital invasion in the prevalence of consumerism is not only a major issue for the future development of the Nantong Temple Street historical block but also one of the difficulties faced by the urban renewal of historical blocks. It is also an important proposition of the tireless study and ups and downs of the academic circle. This study introduces data mining and analytics approaches in the renewal method of reviving historic districts, with a thorough evaluation from the perspective of machine learning. Without uncertainty, machine learning plays an important role in data mining and analytics in the revitalization of historic areas. Furthermore, in the face of the difficult conflict between the historical block and the legacy of cultural features, we attempted to inject new vitality into Temple Street from Temple Street's overall surroundings. We investigated the best approach to update Temple Street, as well as the concept of a development-protection balancing point. The research and analysis from the perspective of the traffic safety and cultural characteristics of the street landscape are of reference significance for the development and renewal of historical blocks. However, because of the traditional complexity of the block space, the subsequent analysis methods and theoretical basis need to be further studied. It also needs to make more time accumulation for the characteristic development countermeasures of the historical block.

## Data Availability

The datasets used and analyzed during the current study are available from the corresponding author upon reasonable request.

## Conflicts of Interest

The authors declare that they have no conflicts of interest.

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