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The Relationship between Public Environmental Sculpture and Its Surroundings via the Study of Geographical Features

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ABSTRACT

In public environmental art sculpture, the engagement with the general people as well as the coordinated alteration with the surrounding environment are of the utmost importance. Public environmental sculptures should be connected with their surroundings and should encourage audience participation in order to make themselves more accessible to the general public. One of the things that helps works embody and communicate its meaning is paying particular attention to the size and volume design of the sculpture. This is also one of the things that sculpture, as a member of the environmental components, has to research and evaluate in depth. The goal of this article is to help readers design public spaces where sculptures and other forms of public art complement and enhance their surroundings and the lives of the people who use them. This article examines the qualities of the space environment to learn more about the role sculpture plays in public environmental art. The latest iteration of the AFSA (artificial fish swarms algorithm) model is used to ensure the landscape ecological pattern functions at its highest efficiency. You may generate better predictions about the landscape index and perform deeper studies of it by using a dynamic model of landscape pattern produced from remote sensing and a geographic information system. Experiments have shown that the accuracy of predictions made by this algorithm has significantly increased, giving a firm basis for the ecological management and planning of landscapes.

Keywords: Public Environmental, Sculpture, Geographical Features.

INTRODUCTION

Sculpture is not only an essential component of environmental art but also a very crucial connection in the process of urban development. Sculptures that are displayed outside are subject to the influence of the location as well as other factors, which results in the sculptures exhibiting certain permanent characteristics. Therefore, it is crucial to properly control how sculptures interact with their surroundings. This creative genre, which emerged as a part of the evolution of mainstream art, makes an effort to bridge the historical gap that has existed between life and art (Tang, 2021). Sculptors may build environmental sculptures out of almost any material, including clay, stone, sound, light, and even combinations of the three. There is an inextricable link that must exist between sculptural works of public art and the natural environment. Sculpture has to be physically coordinated with the environment around it, and there also needs to be coordination between the intended works and the area that is dedicated to public culture (Zheng, 2017; Wen, 2018). The public environment art sculpture and the environment can only encourage one another, create a tacit mood for one another, and then boost the appeal of the whole place by doing so in this specific manner.

Sculpture may hone the cultural data already there in a setting's foundation. It is possible to build a harmonic and interdependent link between the different aspects by using this refinement to construct a matched system of theme, content, and even formal structure (Oh & Wi, 2017). Public sculpture is an integral part of the urban public form because it is an art form tailored to a specific city, a practise that takes place in open public spaces, and

because it interacts with other features of the urban landscape in a way that is mutually beneficial and harmonious (Rewicz, Myśliwy, Adamowski, Podlasiński, & Bomanowska, 2020; Spence, 2017). Instead of contributing to the beauty of urban places, they have polluted them and become foreign or even junk (Feng, Han, & Xiang, 2017). Unfortunately, it's also the part that's simplest to overlook. To achieve its goal of presenting an integrated environmental place, public environmental art sculpture must establish a dialogue with its natural surroundings. Sculpture is the most effective medium for expressing the essence of cultural areas, and its presence in public surroundings is crucial to the betterment of people's lives.

The word "environment" comprises not just the ground surface upon which public environmental art sculptures are to be placed, but also the space in which people actually live (Minjal & Boldyrev, 2018). An art sculpture in a public area may serve as a unifying factor in landscape coordination and supervision provided it is placed strategically, depicts an interesting scene, and is of a suitable scale (D. Liu, 2019). Sculpture in the urban environment is a type of creative expression that includes works of contemporary public art. It is an important facet of the cityscape and has an impact on it. A sculpture, regardless of its subject matter, kind, or shape, must conform to the functions and features of the surrounding space environment in order to portray and contrast the urban space environment, modify the urban colour, and improve the visual experience of public beauty. Those qualities must also be accurately reflected. Sculpture increasingly prioritises audience participation and synchronised adaptation to its setting. Although its content differs from previous environmental sculptures, which focused more on theme and memory, its idea and design are sound, and it makes sense to create a place that interacts with and coordinates with both the public and the environment. The artist's interpretation of the surrounding area and all its peculiarities forms the basis for this.

The study and production of public environmental art sculptures in other countries have reached a very advanced stage, the infrastructure necessary to support sculptures in urban areas has reached its pinnacle, and the developed nations of Europe and the Americas are home to the most advanced areas of public environmental art sculptures in the entire world. Almost every well-known sculpture may be seen as a significant component of urban cultural landscapes in the main cities of Europe and the United States. Public environmental art sculpture, as defined by the academic literature, is a subgenre of public sculpture that exhibits best in urban public spaces and is open to the public (Anneli, Hakkinen, Mervi, & Wiebe, 2017). This type of public sculpture art form is a sort of public sculpture art form. Whether it is referred to as "environmental sculpture" in the west or "public environmental art sculpture" by Chinese academics, its foundation is the public's engagement with sculpture's social purpose; its focus is on incorporating public environmental art sculpture into people's everyday lives; and its medium is public. This is true whether the "environmental sculpture" comes from the west or China (Mara & Florence, 2021). However, because of the variety of settings in which sculptures may be found and the many ways in which people interact with them, the public obligations that accompany artistic sculptures can take on a number of distinct forms.

Outdoor sculpture, according to the literature (Cheetham, 2018), should not only complement the look of the building but also serve to enhance the energy and spirit of the surrounding area. This is because outdoor sculpture can have a significant impact on how people interact with their surroundings. According to the research presented in literature (Ouyang, 2018), urban space is a place that is made up of many entities and serves as a stage for people's everyday lives. It is possible for it to occur between buildings, along a street or in the downtown section of a city, or even across the whole city or a wider urban environment. According to the cited literature (X. N. Wang & R. Z. Zhang, 2017), spatial environment restrictions and their effect on the public sphere The two primary domains of representation in public sculpture are the site of installation and the means through which the artwork is managed. Human factors, as defined by the literature (McArt et al., 2017), are the physical manifestation of many characteristics of the physical environment, including but not limited to emotional forms, ambiance, ornamental effects, and spatial sensations. Landscape ecology places a significant emphasis on the ecological pattern that is present over a given area. Analysis and assessment of ecological patterns in the landscape may serve as a firm basis for landscape ecological management and planning (Dubois, 2021), and it is the most important factor in determining whether or not landscape ecological planning is effective. Different nonlinear data processing methods are utilised to forecast different landscape indices, and their theoretical basis is the landscape pattern dynamic model of RS (remote sensing), GIS (geographic information system), and landscape ecology. These indexes are based on the characteristics of the landscape. The surface is rebuilt from a point set that is not directed by utilising an approach for the extraction of distance field isosurfaces that was introduced in (Crippa et al., 2019). The process of model reconstruction takes a lot of time since the nonlinear technique that is used involves performing a difficult normal consistency check as well as an isosurface extraction operation. In the research presented in the literature (Pinter, 2018), the surface is rebuilt using a noisy directed point set as the input; nonetheless, the output of the reconstruction still has noise. A Voronoi diagram is used to breakdown the scanned data in the literature, and then Delaunay triangulation is used to recreate the mesh model. The scanned

data point set can be properly fitted by using this technique, however optimum reconstruction results for noisy models and sharp features are difficult to attain with this approach. In the research (Watfern et al., 2021) that was done on this issue, an algorithm for user-assisted reconstruction was offered as a solution. He asked that people impose limitations on themselves in places that were unstable or defective, whether they were inside or outside. Distributed memory parallel processing was used to accelerate Poisson's surface reconstruction in the mentioned literature (Lin, Yang, & Architecture, 2017), yielding a strong speedup ratio and minimum loss in the reconstruction results. For cases with a large number of points in the point cloud, the aforementioned body of research (Beans, 2018) suggests a principal component analysis-based method of 3D surface reconstruction.

METHODOLOGY

Investigation on the Interactional Relationships Existing Between Public Environmental Art Sculpture and Their Surroundings The art form known as sculpture is distinguished by the fact that it is site-specific. The reciprocal penetration and integration of artistic and scientific roles is shown by the visual and psychological consequences of sculpture when it is mixed with the interior and outdoor surroundings. As a consequence of this, the sculpture has to be suitable for the setting in order for it to generate the effects that are wanted. This means that the sculpture's dimensions, as well as its form and the material it is made of, need to be acceptable for the space in which it will be shown. The intended effect of creating a sculpture might either be harmonious or hostile, depending on the particular goal of the project. The addition of sculpture to an outdoor space serves the purpose of enriching people's visual experience while also contributing to the art world's canon. The development of sculptures inside is subject to a higher number of constraints than the creation of sculptures shown in outside settings. In addition to needing to be able to accommodate illumination, the placement of indoor sculptures must take into account regional roles such as residential, commercial, and office zones. Sculptures may be distinguished from one another based on the purposes that they provide.

A public environmental art sculpture's primary means of eliciting an emotional response from an audience is via interaction between three components. The three components of this definition are the topic, the thing, and the medium. Examples of interactive media include the designer's emotional response to creating a public environmental art sculpture, the designer's perspective on sculpture, the designer's familiarity with materials, the presentation of design concepts, etc. The public environmental art sculpture itself functions as a symbol, communicating the designer's topic emotion to the audience object; it is the medium and connection between the designer and the object, and the viewers are compelled to contribute their own sentiments to those of the artist. In other words, the audiences that appreciate and accept the object's sculpture as public environmental art are inevitably going to inject their own sentiments into the work. The D-Digital City Information System serves as the basis for the three-dimensional representation of the urban environment. It is able to handle the terrain structure (digital elevation model), the terrain texture (digital orthophoto scene), the information about the 3D artificial building structure, and the information regarding the artificial building texture. This is one of its most important characteristics. This technology may also depict virtual stereo models. Figure 1 presents the data model of the 3D digital metropolis. It reads as follows:

When individuals are exposed to sculpture in a variety of settings, they are able to experience a wide range of visual and psychological sensations. The interplay between the sculpture and the natural surroundings, as well as coordination and unity, are all aspects that designers are expected to pay attention to. Permanent creative energy can only be brought to sculptural works when they become the bearer of nature. The essence and meaning of sculptures may be enriched by incorporating relevant components in the surroundings, which is particularly true when designing environmental sculptures, which use the qualities of the natural environment as a starting point (**Figure 1**).

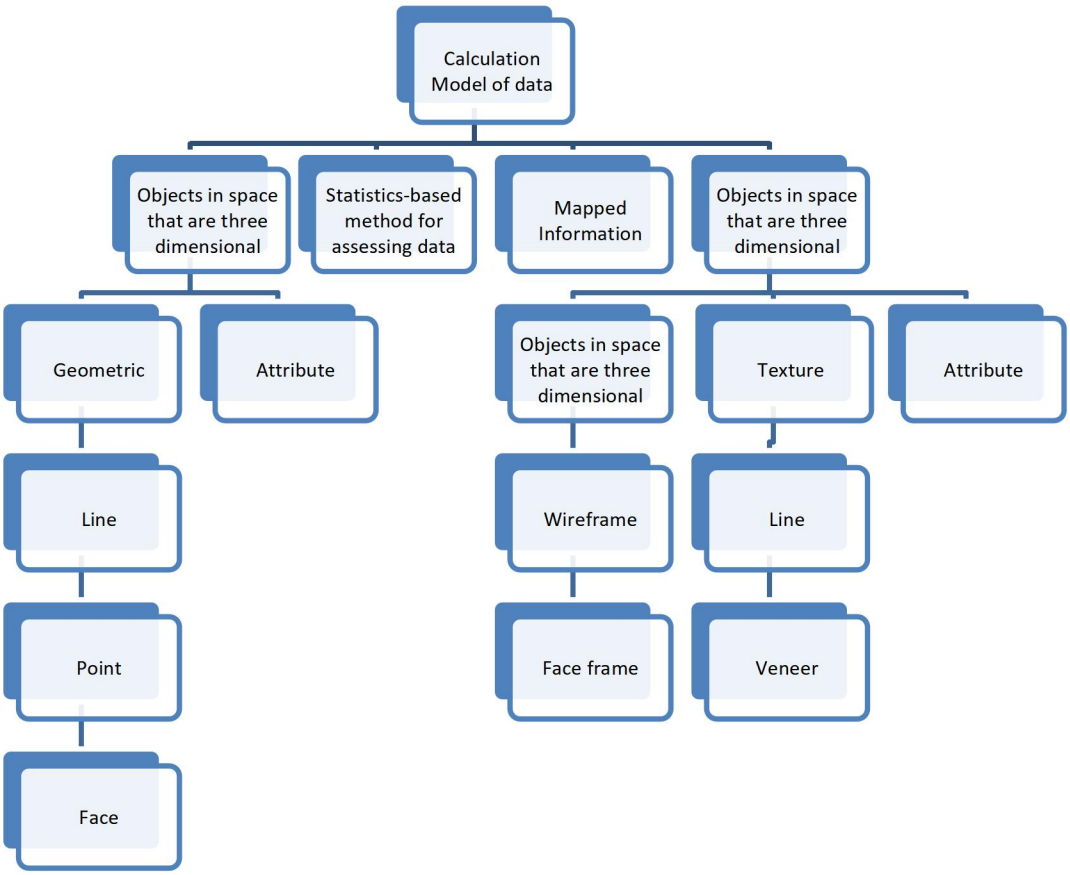

Figure 1. Data Model of Three-dimensional

Figure 2(a). A Dreadful Fish

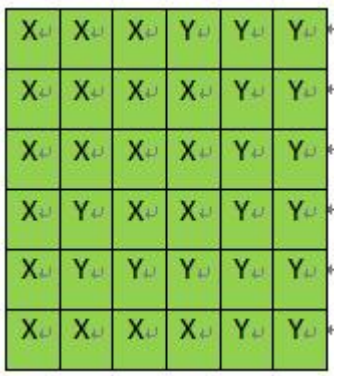

Figure 2(b). The Perfect School of Fish

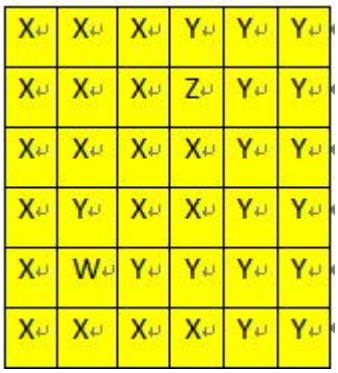

Figure 2(c). Now with even Worse Fish

An environmental sculpture's dimensions and form should be appropriate to its location, reflect the social and psychological activities of the area's regulars, and reach out to the public in some way. The sculpture's form and content are related to viewers' mental states and actions, making for an atmosphere that is both relaxing and interesting. The designer's own style of thinking about design and ability to create is reflected in how well the designer is able to gain a feeling of scale while working on a public environmental art sculpture. It might be an expression of the designer's inherent understanding and familiarity with the space they've created. Common sense dictates that most individuals have a natural talent for determining relative sizes. This implies that the perceived attractiveness of a room decreases when people make inaccurate assumptions about the size of the space and the things inside it due to an unsuitable scale design. However, if size is used well, the result may be a visually appealing space.

A well-executed public environment art sculpture has the potential to excite people's aesthetic tastes and artistic aspirations, bring in a large number of locals and tourists to observe and interact with it, and ultimately concentrate the unavoidable popularity of space places while fostering an animated ambiance. The first step in firmly establishing sculpture as a new concept of cultural image is to enhance the artist's cultural accomplishment so that he or she can see that the sculpture and skills are brimming with cultural spirit. The second step is to firmly establish sculpture as a new concept of cultural image. The third step is to firmly establish sculpture as a new concept of cultural image. Second, you should be aware that sculpture may address a wide range of topics and serve a variety of purposes. Whether they are statues commemorating historical figures or paintings depicting influential people, all of these things have cultural connotations and serve as cultural carriers. Consequently, the cultural relevance of urban landscape sculpture should not be underestimated. It's frequently intangible, but because to the nuanced ways in which it affects people, it becomes a significant cultural indicator.

Planning the placement of public sculptures of art via an examination of environmental factors. Objective determination, information collection, model establishment, preliminary scheme, scheme evaluation, planning formation, and management are the core processes for dynamic analysis of landscape ecological pattern. Other processes may be necessary depending on the objects, scales, and objectives. Important aspects of ecological planning include [Note: developing models and improving different plans. By starting with the behaviour of constructing a single fish and progressing through the local optimization of each individual in the fish school, the AFSA (artificial fish swarms algorithm) mimics the foraging, clustering, and rear-end pursuing behaviour of fish. Collect the worldwide best answer.

The improved AFSA is based on the idea of a system that can adapt to its environment while it searches for fake fish. Foraging, clustering, and rear-ending are all examples of such behaviours. The purpose is to hasten the convergence of the algorithm without sacrificing precision. The variable step size method is used in this piece, with the fake fish adjusting its step size in response to the current pollution levels (**Figure 2(a)**, **Figure 2(b)**, and **FIgure 2(c)**).

The variable step size formula is as equation (1):

$$\text{Step} = \frac{y_n - y_i}{y_n - y_w} \times \text{X} - \text{Step} \tag{1}$$

In this case, Yi is the current imitation fish food concentration, Ym is the greatest concentration in view, and Yw is the lowest.

By increasing the step size, it may be possible to optimise more quickly during the first stage of searching and

reduce the probability of missing the optimal value during later stages. This is so because there is less of a chance that you'll pass on the best possible answer.

In order to make an automated adjustment to the phenomena of fish aggregation, view will progressively become smaller as the number of iterations increases, and the adaptive formula of view (equation (2)):

$$\text{view}=V_{\max}\times\left(\frac{V_{\text{mean}}}{V_{\max}}\right)^{k}\times\text{step} \tag{2}$$

where Vmax and Vmin represent the highest and lowest possible values of view, k represents the iteration number that is currently being used, and it max represents the highest possible iteration number. Each artificial fish swims in a larger field of vision at the beginning of the optimization process, which expands the search range of the algorithm. This increasing search range is followed by a gradual decreasing search range, which allows the fish to search in a field of vision that is more specific.

The population's overall variety may be maintained by the use of the shared function, which corrects the fitness values of individuals within the population. The shared function is produced as a result of the interaction between the coding difference and the fitness difference. If we assume that there are two people named xi and xj, that the coding value distance between them is d1(xi, xj), and that the fitness distance between them is d2(xi, xj), then the shared function S(xi, xj) may be represented as the following:

$$\eta(s_1,s_2)=\begin{cases}-1-\frac{d_1(s_1,s_2)}{\alpha_1}, & d_1<0, s_1>s_2,\\ 1-\frac{d_1(s_1,s_2)}{\alpha_1}, & d_1\geq 0, s_1<s_2,\\ -1-\frac{d_1(s_1,s_2)}{\alpha_1}\frac{d_2(s_1,s_2)}{\alpha_2}, & d_1<0, s_1>s_2,\\ 0, & \text{otherwise.}\end{cases} \tag{3}$$

where a1 and a2 are the niche radius.

The worst performers (Xw) in a group or subgroup might get knowledge from the top performers (Xb) by doing local search at the subgroup level. The two pixels are utilised as the top-left and bottom-right corners of a rectangle to produce new training data using random replacement operators. As shown in Figure 2, the poorest fish Xw in the present subgroup has its genes replaced with the genes corresponding to the learning goal fish Xb in this range, therefore completing the update procedure. This is done again and over again until the update is finished. According to the fitness function, if the updating operation does not lead to an increase in the fitness of the swarm (denoted by Xw), then mutation is applied to the Xw-th least fit fish swarm in the subgroup. You can see a schematic of the mutation procedure in **Figure 3**.

Following the mutation, a determination is made as to whether or not the magnitude of landscape pattern transfer exceeds the control provided by the likelihood matrix of landscape pattern transmission. If not, then the mutation does truly take place; if it does, then the mutation does not actually take place. Establishment of the octree occurs when the point cloud dataset is added to the octree in accordance with the maximum depth that has been specified.

The value oc denotes the centre of node o, while the value ow indicates the width of node o. Calculate the key sequence xyz of sampling point p and the sorted key sequence if you are given a sampling point p as an input. Calculated in reverse order, the xyz key sequence of sample point p goes from high to low. At d($1 \leqslant d \leqslant D$) depth (equation (4)).

$$\begin{cases}\text{Xd}=0, & p,x<\text{Cd}s\\ \text{Xd}=1, & \text{otherwise}\end{cases} \tag{4}$$

D value sequence at depth xyz is defined as

$$\text{x1y1z1x2y2z2LxDyDzD} \tag{5}$$

Because it is simple to understand that the xyz sequence defines the route from the previous node to the current node, it follows that when the depth is D, a total of D bits will be required. At this time, k may be represented with a maximum of 32 bits, which enables a maximum depth of 10. The xyz key sequence is used by each and every sample point as a sorting key. The coding principle states that the xyz key sequence that is closer to the origin has a shorter length, while the xyz key sequence that is farther from the origin has a longer length.

RESULT AND DISCUSSION

The image was analysed using remote sensing and geographic information systems (GIS), and the landscape elements were separated into seven distinct landscape types using the improved AFSA neural network research model of ecological landscape spatial pattern planning. These landscape types include cultivated land, garden, woodland, sandy waste-land, urban and construction land, water area, and unused land (**Figure 3**). These landscape types were determined by dividing the landscape elements into seven distinct categories. The picture will be rasterized, with each raster having a size of 300 metres by 300 metres. The remaining twenty percent of the sample is used as verification data, while the remaining eighty percent is used in the training of the enhanced AFSA model, which ultimately produces the results of the landscape index prediction. Alter the timings of the workouts on many occasions. The output findings are consistent, and the calculations are shown in **Table 1**, **Figure 4**, and **Figure 5**.

Table 1. Squares and Pedestrian Streets Get Notably Varying Amounts of Focus from Rating Considerations

Squares and Pedestrian Streets	Pedestrian Street	Square
Individualization of spatial layout	0.17	0.14
Leisure atmosphere	0.17	0.15
Broad sense of vision	0.09	0.07
Convenience of public facilities	0.27	0.025
Color diversity	0.09	0.07
Greening rate	0.19	0.17
Spatial privacy	0.08	0.07
Space security	0.08	0.07

Figure 3. Changes in Procedure

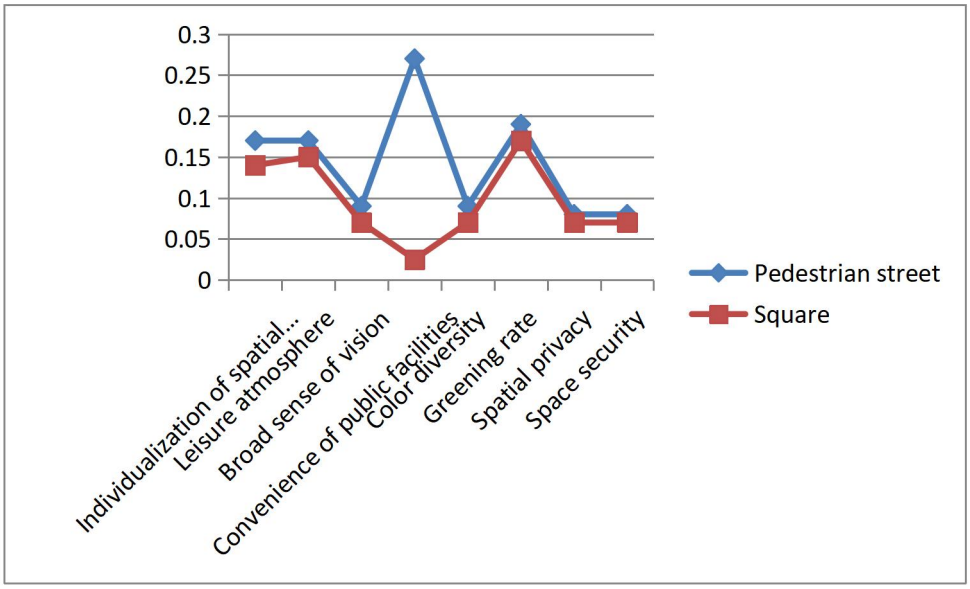

Figure 4. Squares and Pedestrian Streets Get Notably Varying Amounts of Focus from Rating Considerations

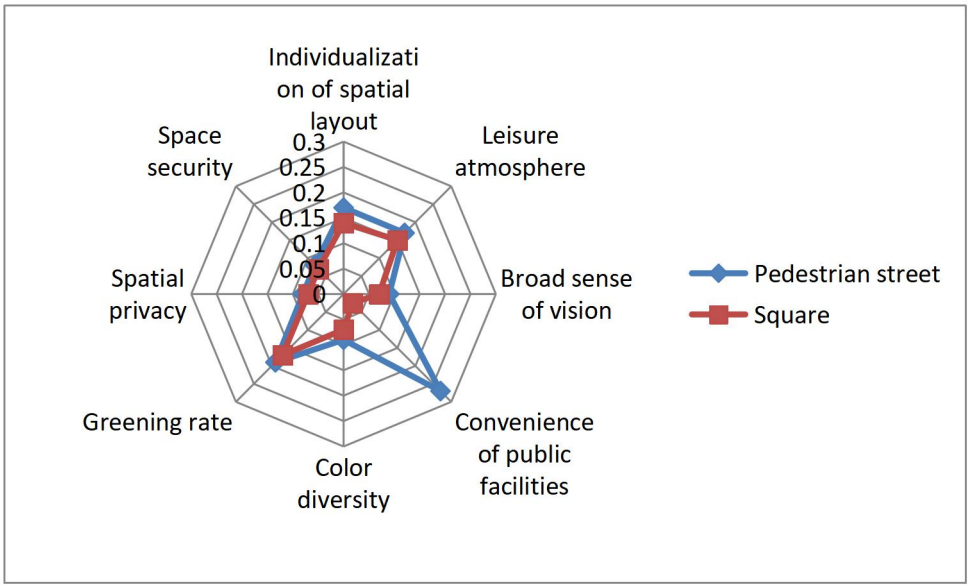

Figure 5. Graph Showing Squares and Pedestrian Streets Get Notably Varying Amounts of Focus from Rating Considerations

Results show that the accuracy of the modified AFSA model samples is within 4%, whereas the accuracy of the original AFSA is generally within 6%, for both simulated and projected output. In comparison, the new and enhanced model has an accuracy of within 4%. To keep the training error of a BP neural network below 7%, a variety of methods may be used. As a result, it proves that the revised AFSA model provides more reliable results. There is less of an impact from the error. The result is a more accurate depiction of the landscape's pattern. Create a more welcoming environment for landscape design optimization by giving it a solid theoretical grounding in science.

Urban sculpture, a kind of population art, has the best chance of being widely embraced by the people at large. Open public art appreciation and the characteristics of modern day citizens have transformed urban sculpture into something more than just a marker of social status. As an alternative, urban sculpture today now conveys the people's deep meaning from the side. But urban sculpture is neither a tool that can be used to address problems that are part of social reality, nor is it a tool that can be used to blindly pander to and mimic the wants of the newcomers in industrial and commercial circles. This study's methodology is utilised to maximise the potential of the architectural landscape, with recognition decided by the amount of satisfaction with the project. **Table 2** depicts how people's focus shifted as they evaluated different aspects of the public plaza and pedestrian street, and

Figure 6 and **Figure 7** shows how pleased people were with the newly optimised architectural environment. You can check out both of these diagrams down here. The study's premise is predicated on the idea that satisfaction may be scaled from one to five, with scores ranging from zero to one representing each level.

Table 2. Analyzing the Discrepancy between Simulated and Predicted Outcomes

Sample Number	Expectation Value	Actual Value
2	7.1	7.3
4	7.2	7.0
6	7.0	7.2
8	7.3	7.0
10	7.1	6.9
12	7.2	7.1
14	6.9	7.0

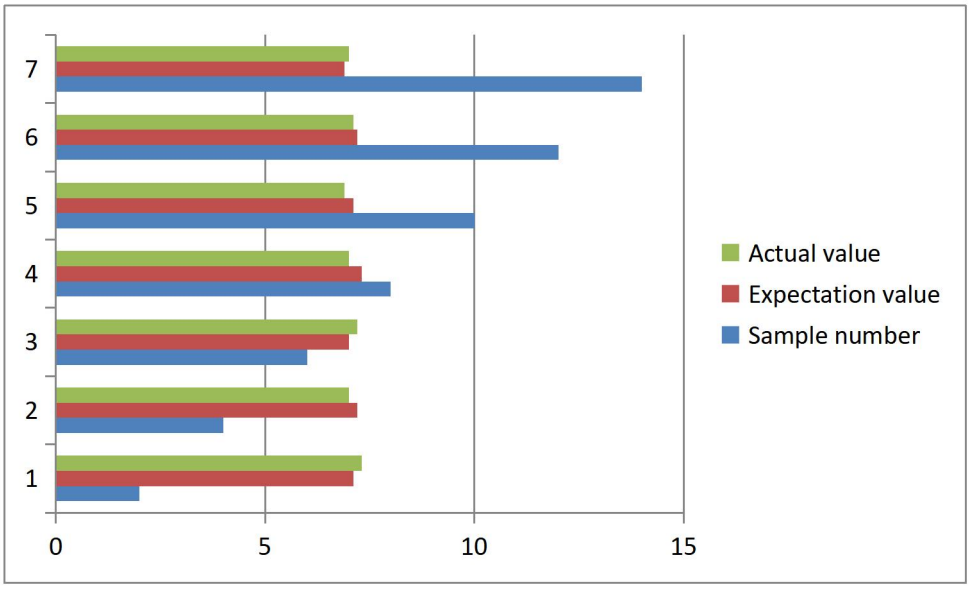

Figure 6. Discrepancy between Simulated and Predicted Outcomes

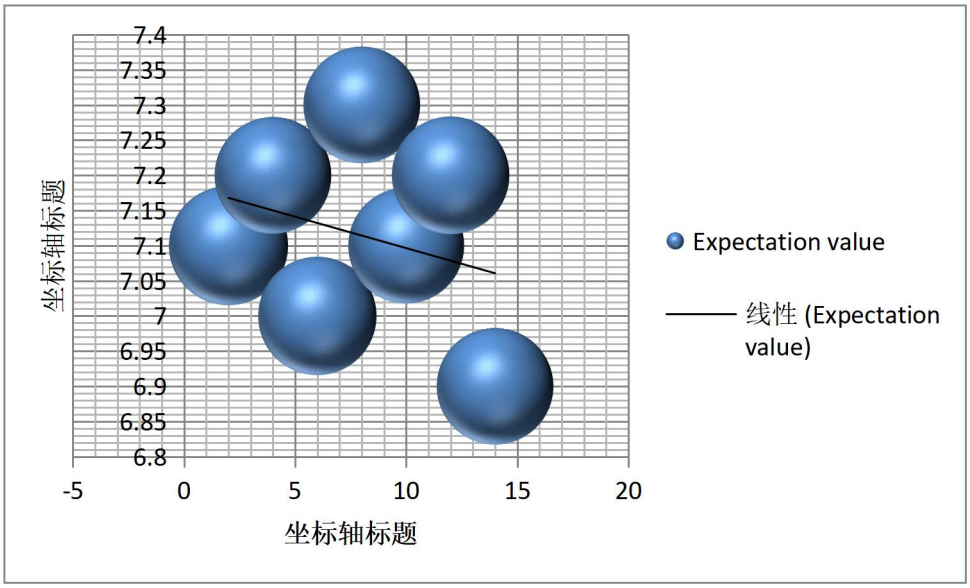

Figure 7. Analyzing the Discrepancy between Simulated and Predicted Outcomes

After being tuned, this approach yields results that are, for the most part, consistent across all of the assessment criteria. People provide ratings higher than "acceptable" to the majority of the architectural landscape

assessment categories, which indicates that they are more satisfied with the optimal spatial arrangement of the Huaqiang North architectural landscape. While doing so, it proves that this algorithm is capable of producing satisfactory results in terms of architectural landscape spatial optimization. This means the square is the most pleasurable shape. The square's well-designed amenities and ample greenery make it a popular gathering spot for locals and visitors alike. What's more, it serves as the city's nerve centre because to its central location on the main plaza. However, different types of retail architecture all have their own characteristics, some of which might be overstimulating and lead to visual weariness rapidly. Pedestrians aren't happy either since the pace at which vegetation is greening the roadway is low. The software's Markov module is used to build the Markov model. In order to foretell the future landscape pattern in the county, we build a transition probability matrix between the different landscape types from 2020 to 2025. This serves as the check that the AFSA mutation process uses to make sure the optimised landscape pattern matches reality.

Land in the county's forests is the kind most likely to undergo change as a result of the county's continuing process of evolutionary change. There is no doubt that the transfer value exceeds the transfer value, and the likely transfer area between building land and other landscapes is enormous. Sand dunes have a small transferable area compared to other types of terrain, but a large transferable area compared to forests. Only a small portion of the terrain is covered by the body of water, but a sizable amount of land might be moved from the forest to the sandy region if the water level were to drop. The transferable land space between the lake and other landscapes is, however, limited. Compared to other types of landscapes, mountainous areas provide the smallest possible transfer area.

Aside from its form, urban sculpture also functions on the levels of image and message, making it a distinct type of material presence. Their external physical traits immediately speak to our thoughts and culture, prompting us to contemplate the nature of space, community, and even ourselves. Therefore, urban art must be created using the public's visual and psychological experiences as its starting point. Visual assessment of the optimization results reveals that the level of landscape aggregation depicted by the two optimization models has been considerably increased, but the fragmentation of each kind of landscape has been well handled. In addition to calculating the transfer area outside the control of the transfer probability matrix, the 2020 study area landscape pattern distribution, landscape aggregation index, average landscape suitability index, and transfer area beyond the matrix are also calculated. All of the results are summarised in **Table 3**.

Table 3 shows how a greater landscape compatibility index might prevent afforestation, land reclamation, and other operations in places with poor soil and water conditions, therefore contributing to the efficient use of county property. In order to make sure county land is suitable for local circumstances, as shown in Table 3, it is important to have a high Landscape Suitability Index (**Figure 8**). To better understand the function of a high landscape adaptation index in facilitating the efficient use of There are several significant ways in which this part of the transition probability matrix differs from the control section. With such a discrepancy, the landscape pattern optimization strategy will be tough to implement. Because of this, the optimization strategy should include managing the transfer probability matrix of landscape patterns.

Table 3. Checking the Outcomes of Optimising Landscape Patterns Using Different Indicators

Comparison	Landscape Aggregation (%)	Average Landscape Suitability (%)	Excess Transfer Area (km2)
Landscape pattern in 2020	78	94	2
Traditional AFSA	95	79	37
Improve AFSA	93	99	2

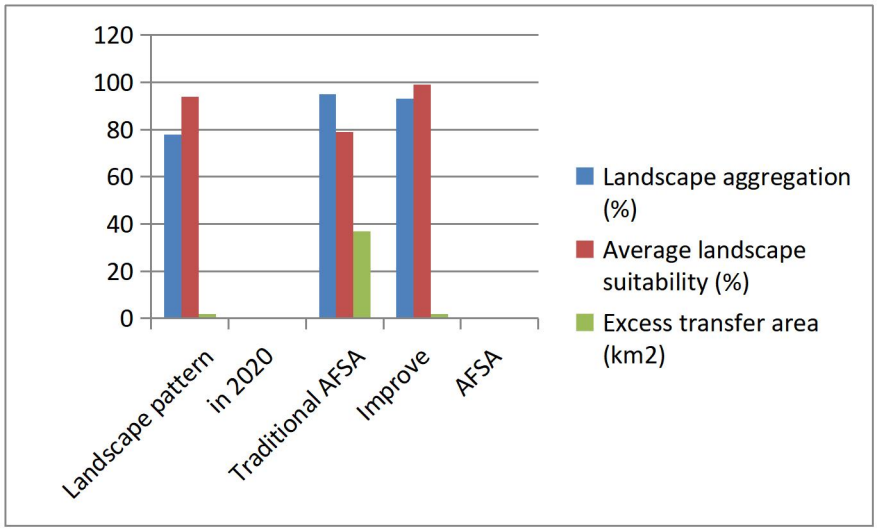

Figure 8. Comparison of Indicators of Landscape Pattern Optimization Results

To test this system, we downloaded the point cloud dataset from the Poisson reconstruction technique's official website. Two different animal models—a rabbit and a horse—were employed. Investigate the horse dataset, giving special attention to the mixed parallel environment's point average and area average, which were generated by the horse dataset. On the other hand, unlike ancient cities, modern ones don't give much consideration to the cultural or folk importance of the way urban space is divided. Modern urban space is partitioned first for practical reasons, and then for the aesthetic needs of its residents via careful planning and fabrication. Contemporary urban street features such as waiting areas, mailboxes, guardrails, and other public amenities all contribute to altering the streetscape and influencing the city's overall aesthetic (**Figure 9** and **Figure 10**).

Table 4 shows the timing results of some improved parallel methods.

Table 4. Time-consuming Comparison of Various Platforms

	Bunny	**Horse**
Type 1	74	29
Type 2	59	22
C2070	7	6
K2000	7	6
OpenMP+C2070	8	7
OpenMP+K2000	6	6

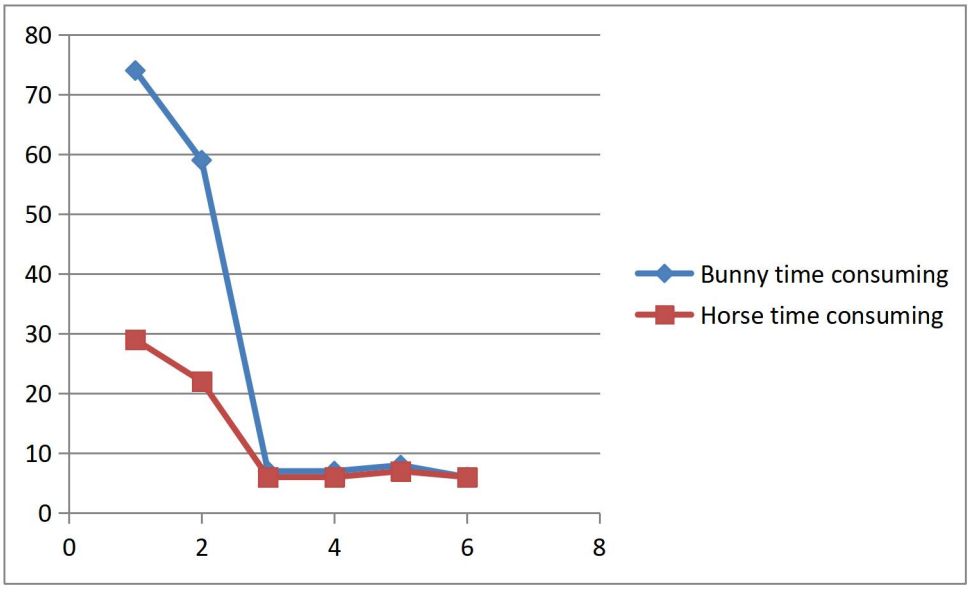

Figure 9. Time-consuming

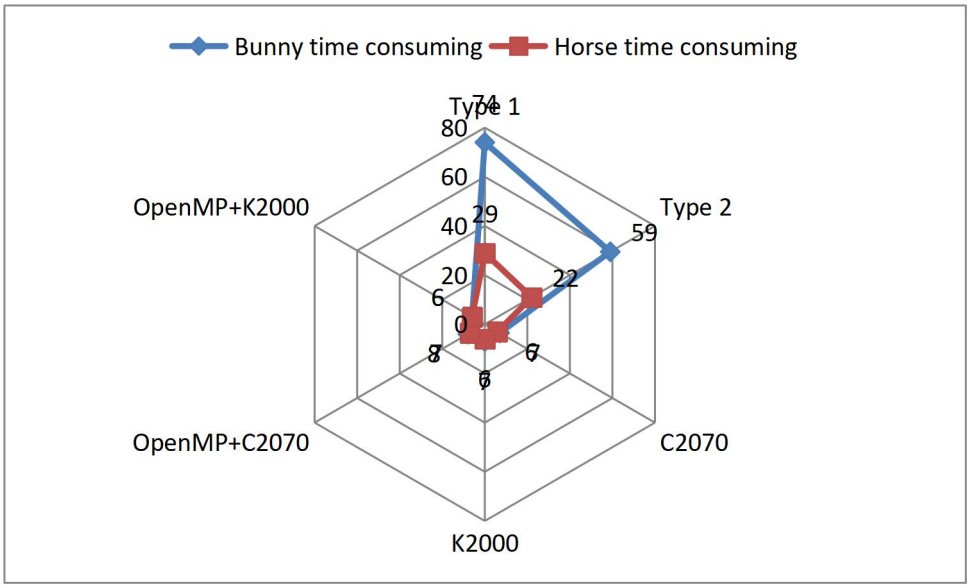

Figure 10. Time-consuming Comparison of Various Platforms

To summarise, when compared to the practise of merely employing any type of acceleration equipment, the use of hybrid and degraded acceleration technology allows for the achievement of a higher acceleration ratio. The study fully exploits the peculiarities of the individual jobs inside the algorithm and distributes them to the most suitable processing hardware to ensure the processing is completed. High performance may be achieved by combining these two types of equipment. For this reason, it is recommended that a hybrid parallel acceleration model be used for accelerating and optimising the algorithm, and that computing workloads be allocated sensibly for optimal performance.

Sculpture, much like buildings, trees, and other forms of urban adornment, is an essential component of urban space. An organic component that influences the organisational structure of urban area, urban sculpture is a kind of public art. Because it does not serve a particular purpose, unlike the other components, it will instead become the focal point of a city that is located in empty space. A lovely appearance and lyrical acclaim can only be achieved for the city if proper consideration is given to the significance of this component. When assessing the beauty of the environment as a whole, it is important to look for national qualities as well as regional formal beauty. As a result, people's expectations for the creative quality of their living environment should be met by environmental sculpture. However, environmental sculpture should also reflect people's steadily increasing spiritual level as it relates to the cultural field. The desire for neatness and beauty is no longer the only motivation for people to create works of environmental art; rather, it is the continued search of a higher aesthetic realm and deep cultural significance that drives this motivation. Sculpture integrated into the natural environment is an example of public art. It is a significant factor in the city's public environment, as well as its humanistic environment, and plays an essential part in the formation of these qualities.

CONCLUSION

Sculptures in the public environment not only play a significant role in the lives of individuals on a day-to-day basis but also have the potential to exhibit the special cultural allure of a city. Sculptures that are mature and interactive that are placed in public environments have the ability to immerse members of the public in a profound cultural milieu thanks to the visual pictures they project. During the process of designing a sculpture, extra attention should be made to showcasing the city's distinctive characteristics while also completely honouring the local history and culture. This will help to boost the aesthetic value of the sculpture. If the design of sculpture is based on an examination of the features of the spatial environment, then the artistic sculpture that is part of the public environment may be more closely integrated with the city's root and grow, so completely exhibiting the city's one-of-a-kind personality. The technologies of RS and GIS are used to do analysis on the images. It does this by increasing the effectiveness of the optimization of the landscape pattern and by providing a strong analytical framework for the achievement of ecologically appropriate development.

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