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Retraction

Retracted: The Influencing Factors of Spatial Layout of SKI Venues in China and the Influence of Internet of Things Technology on Their Structural Optimization

Wireless Communications and Mobile Computing

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This article has been retracted by Hindawi following an investigation undertaken by the publisher [1]. This investigation has uncovered evidence of one or more of the following indicators of systematic manipulation of the publication process:

(1) Discrepancies in scope
(2) Discrepancies in the description of the research reported
(3) Discrepancies between the availability of data and the research described
(4) Inappropriate citations
(5) Incoherent, meaningless and/or irrelevant content included in the article
(6) Peer-review manipulation

The presence of these indicators undermines our confidence in the integrity of the article's content and we cannot, therefore, vouch for its reliability. Please note that this notice is intended solely to alert readers that the content of this article is unreliable. We have not investigated whether authors were aware of or involved in the systematic manipulation of the publication process.

Wiley and Hindawi regrets that the usual quality checks did not identify these issues before publication and have since put additional measures in place to safeguard research integrity.

We wish to credit our own Research Integrity and Research Publishing teams and anonymous and named external researchers and research integrity experts for contributing to this investigation.

The corresponding author, as the representative of all authors, has been given the opportunity to register their agreement or disagreement to this retraction. We have kept a record of any response received.

References

[1] J. Zheng, Y. Bai, and X. Lin, "The Influencing Factors of Spatial Layout of SKI Venues in China and the Influence of Internet of Things Technology on Their Structural Optimization," *Wireless Communications and Mobile Computing*, vol. 2022, Article ID 6310046, 10 pages, 2022.

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Research Article

The Influencing Factors of Spatial Layout of SKI Venues in China and the Influence of Internet of Things Technology on Their Structural Optimization

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Skiing is currently the most popular winter outdoor recreation in China, thanks to the progressive growth of the ski sector. The construction of ski resorts would assist mountain communities economically. The Chinese ski sector is now booming, with the number of ski resorts expanding considerably. The geographical structure and driving causes for these ski regions, however, are poorly understood. Applying nearest neighbor ratio (NNR) analysis and the Spatial Lorentz Curve, this research examines the spatial patterns of these venues in detail. Kernel density estimation is used to identify hotspots (KDE). Furthermore, a regression analysis was used to discover the characteristics that influence the spatial distribution. We also look at the impact of the Internet of Things (IoT) on venue structural optimization. While China's ski regions were regionally distributed, the results show that ski areas are much a higher chance of being found at latitudes (northeast and northwest China) than at latitudes (central and south China). The key elements that affect the distribution of resorts vary by location and ski resort type. The implications for the ski resorts sector are explored, including the varied practices for cold and hot spot regions of China's ski areas, as well as the ski industry's future development orientation.

1. Introduction

One of the fastest in the world vacation and transport industries, sports tourists, is becoming increasingly important for location management and designing. Many mountainous locations benefited from the advent of it containing recreational or sporting activities. Part of the twentieth century has grown in popularity as tourist sites. Tourism focused on ski resorts, comprising service improvements in infrastructures, industrial and financial diversity, and the development of new jobs. In so many places, "psychological stability" between people is a cornerstone of the tourist sector. Mountainous regions' ski revenue, for illustration, provides for around 5.2 percent of Belgium's GDP. GNP accounts for over half of the total tourist earnings [Fang et al. [1]]. The Internet of Things created a technological realm that interacts with the physical world, producing a new man-land connection. On one side, geographical research on Internet of Things derivative phenomena such as spatial organization, distribution, and industrial distribution provides guiding value for industry growth strategy. On the other hand, geography must adapt and improve. The conventional space perspective, location, spatial interaction, spatial structure, center place, Behavioral Geography, and Urban Geography should be reexamined and updated [Yuan [2]]. The economic situation and the rise of ski venue-based tourism in Alpine nations exemplify the evolution of sports tourism and outdoor leisure activities into industrially manufactured and consumed activities. Around 200,000 people have visited the world's 2000 outdoor ski venues and 88 indoor snow centers. Over the previous 18 years, 400 million people have skied. In contrast to the established ski tourist sectors in several European and North American nations, China's ski business seems to be developing. China has increased significantly in the last two decades to be one of the world's top ski tourist areas, including 29 million skier visits and 741 ski venues in 2018. This will soon overtake several global leaders, including Switzerland. China's ski tourist industry started in 1996 and it has grown significantly in the last decade; yet, China's skiing attendance rates (now at barely 1% of the world average) remain much lower than other nations. The rise in individual affluence has fueled such expansion, leading to a rise in inbound and domestic tourists. Figure 1 shows the distribution of different types of ski venues in China [Zuo et al. [3]].

Because the administration has undertaken several programmers to boost China's skiing sector, the 2022 Winter Olympics would enhance snow sports in China. China's government estimates that 800 ski areas will be developed before 2022. In 2025, over 1.3 billion Chinese citizens are predicted to engage in winter activities, with the ski sector alone earning USD 155.4 billion in income [Jin et al. [4]]. Understanding spatial patterns in the spread of ski venues at the local scale, and the key variables of effect, is critical for greater understanding and forecasting of the ski industry's evolution. Ski areas are vital for the growth of ski tourism as well as the surrounding economy since they are necessary amenities for skiing. Nevertheless, discrepancies in the dispersion among ski venues have been discovered. The Alpine area has more than one of all ski venues inside the globe, accounting for 42 percent of all ski trips, dominated by North America (21 percent). In China, 60 percent of ski venues are found in the northeast, demonstrating the unequal spatial distribution of ski areas [Chen and Wang [5]]. Resources are a major influence in the placement of ski venues in developed ski tourist economies. The quantity of ski areas seems to have reached a plateau. However, additional ski areas are now being created in China. Tourist venues have a long history in Europe, dating back to the 1930s. Tourism as just a worldwide sector expanded following WWII, due to the global economic boom and the development of paid holidays. Visitors, no more pleased with seeing, went on holidays to relax to enhance their overall health. As a consequence, venue towns have sprouted in wealthy European and North American nations. Recreation tourism has helped these nations develop a thriving tourist economy throughout the decades. Studies on tourist venues have primarily focused on two main topics since the 1960s: cycle and growth cycle, kinds, environmental impacts, relevant stakeholders, administration, and advertising. In China, however, leisure tourism did not begin until much later. In 1992, the state's first touristic attractions were built. The related study focuses on the development and design of the 12 first national tourist venues, as well as visitor happiness and business model. A report just on the spatial distribution of major tourist spots does not exist [Jiang et al. [6]].

1.1. Contribution of This Paper

(1) Nearest Neighbor Ratio (NNR) analysis and the Spatial Lorentz Curve are used for the analysis of spatial structure

(2) Kernel density estimation (KDE) is used to identify hotspots

(3) Regression analysis was utilized to determine geographical distribution factors

The rest of the article is arranged as follows. The following part includes a literature review. The study methodology and data sources are described in Section 3. The performance analysis and discussion are included in Section 4. This paper's conclusion and future work are presented in the last part.

2. Literature Review

Xiao et al.'s [7] research in China gathered thorough information on ski venues and the environmental and economic variables that surround them Table 1. A maximum of 592 ski racing areas in China have been divided into three types: holiday (VA-ski venues), starting to learn (le-ski areas), and encounter (ex-ski parks), with percentages of 2.2 percent, 16.4 percent, and 81.5 percent, in both, indicating that the Chinese ski industry was still dominated by tiny ski areas. Nevertheless, owing to the scarcity of ski area data, the choice of markers for scientific categorization still has to be improved. Because of the limited geographic resolution of snowfall depth data, the snow accumulation in hills may be overstated. Garg and Harita [8] discuss about personalized healthcare uses perfectly alright data to identify specific deviations from the norm. Using "Virtual Twins" within a design, such emerging information healthcare systems were ethically and ethically examined. Zuo et al. explain that the mean closest neighbor index, kernel density, and geographical correlation are being used to investigate the geographical pattern of distribution of China's sporting tourist specialty initiatives. Hazard rating techniques with a geographic sensor probing model are being used to find the spatial distribution pattern's main variables. This research has limitations: initially, constrained by the accessibility of selected indicators, current tourist boutique initiatives cannot be chosen as the research object, limiting the article's relevance and freshness. Furthermore, as just a novel way of integrating and developing two businesses, sports has received little quantitative research on its cooperation and connection with the local natural environment, government, economics, people, and other elements. Ahmed et al. [9] explain the hypersensitivity is a lengthy worldwide epidemic, Among often the recommended therapies in Taiwanese medical centers are traditional Chinese or China drugs. Deng et al. [10] explain the analysis that predicts China's ski area growth to vary in future decades. Ecological, psychosocial, and integrative appropriateness within four climatological scenarios is presented. Uncertainty remains in the evaluation of ski area growth with global warming and social

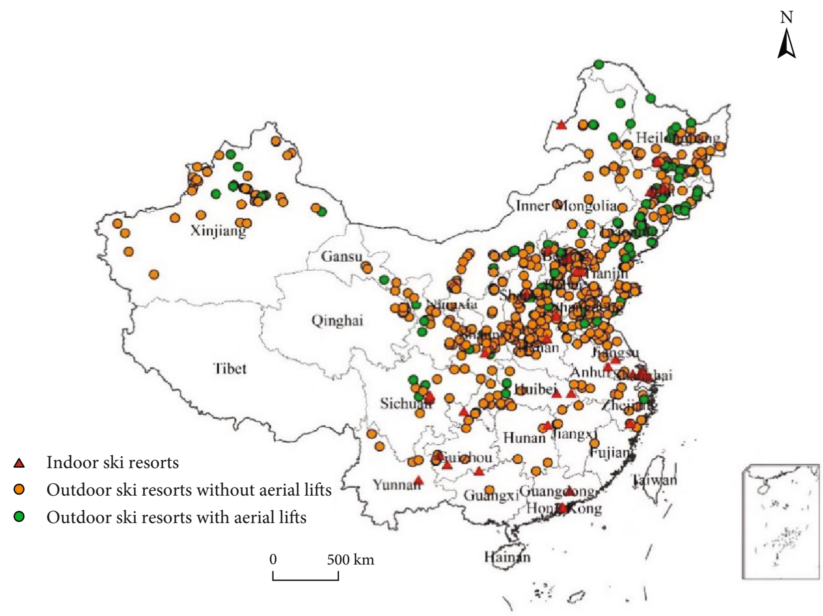

Figure 1: Distribution of different types of ski venues in China (source: https://dx.doi.org/10.1007/s10346-018-1007-z).

Table 1: Shows the description and limitation of the study.

Reference	Description	Limitation
Xiao et al. [7]	This research seeks to expose the geographical pattern of China's ski areas and to investigate its driving variables based on GIS spatial analysis theory to offer a theoretical foundation for the sustainable growth of the ski industry in China.	Improve scientific classification indicators.
Zuo et al.	This research makes theoretical advances to the analysis of the geographical distribution pattern of sports tourism resources by using the entropy weighting approach and geographic detector model to uncover the driving forces impacting the distribution.	Being constrained by the availability of specific indications
Deng et al. [10]	In this research, we integrate natural and socioeconomic characteristics under four climatic-socioeconomic scenarios (combination of representative concentration pathways (RCPs) and shared socioeconomic paths (SSPs)) to evaluate the current and future appropriateness for ski area growth.	The ski season simulation model is not studied.
Jiang et al.	This study set out to provide a method for exact quick assessment of the distribution of healthcare resources using enhanced geographic information spatial data, which may have relevance for ongoing quantitative research into healthy cities in China and elsewhere.	The spatial study did not address inhabitants' desire and preference to walk due to limited data and fast assessment.
Chen et al. [15]	This research analyzes the overall intensity of several industrial growth patterns and finds that integrated industry is the best model for developing the ice-snow sport tourist sector in Zhangjiakou.	Due to insufficient data availability, the statistical analysis is insufficient.
Bhattacharya et al. [20]	This paper presents an energy-efficient architecture for IoE cloud network access. Wind-Driven Optimization technique forms sensor clusters to enhance data efficiency.	Packet context-based routing is not optimal.

progress based on climate modeling, forecasts, economic predictions, and the evaluation method used in this study. Jiang et al. state to better comprehend the person's trip experience, this study starts with two perspectives: on-site emotional things and recollection emotion, and then integrates the psychological profile with individual personal spatial and temporal behaviors. Shahabaz and Afzal [11] suggest that use of HDR brachytherapy has been shown to minimize radiation exposure, make outpatient treatment possible, and shorten the amount of time needed for various tests. Hashemi et al. [12] investigate the impact of influencing variables such as community affiliation, psychological solidarity, and desire in participating in snowfall ski tourists in Iran on favor of tourist development and perceived economic rewards. In particular, the significance of anticipated economic benefits in mediating the relation between influencing variables and tourist development opportunities is investigated. Li and Zihan [13] presented a treatment technique and equipment for residential wastewater to improve rural communities. Chen et al. [14] suggest to establish healthy communities requires sufficient healthcare services and facilities. Health services are important for public health. The geographical study did not incorporate inhabitants' desires to walk due to accessible information and a speedy assessment. Demographic size distribution determined healthcare resource requirements, which may vary from real needs. Due to the diverse kinds of resources used, it was difficult to acquire data including such based data and operation range. Zhou et al. [15] conducted to determine which growth pattern would be most suited for the frozen sports tourism industry in Zhangjiakou, which is one of the host cities for the 2022 Winter Games. The characteristics of the ice and snow sports sector are dissected in this study in addition to and use of the strategic analysis approach to assess the company's present state in Zhangjiakou. Even though the study has made considerable progress, there will still be certain gaps. The data analysis is not extensive and sufficient due to data access limitations. Furthermore, because the Winter Games and frozen tourists are comparatively recent themes in China, there are limited scientific work and publications to evaluate. Salihu and Zayyanu Iyya [16] investigate that Zamfara, Nigeria, hydrophilic and organophosphate insecticides were found in soil samples collected from chosen vegetable farms. Focus on three main using GC-MS was used to assess the testing regime and outcomes. Liang [17] determines the economic possibilities of Chinese ski venues and to make some recommendations for operators and investors on how to grow the Chinese ski business. Some studies and conversations are conducted to fully understand the present condition and future trends of Chinese ski venues. The main research approach is subjective, with some supplementary data gathered and processed through the internet. Mody and Bhoosreddy [18] explain these disorders have numerous odontogenic keratocysts. Several odonotogenic keratocysts were found in three female teenagers. During the study, no further anomalies were detected. Shaik and Ganesh [19] explain to quickly restore power. The experiment has been carried out from the network by causing an outage as a three-phase fault develops. The efficiency of the VSC-HVDC with DNN-SSD in the standard Compensator is evaluated. Furthermore, due to significant disadvantages that their interconnectedness could perhaps reduce the frequency response in the power grid, there was an earlier inquiry of an energetic try on the inclusion of wind turbines via the transmitting of the VSC affiliations, and this substantial functionality deemed as the most essential inspirations of this inquiry of the research. Bhattacharya et al. [20] focus on effectively integrating IoE with the cloud. EECloudIoE uses Wind-Driven Optimization and Firefly bio-inspired algorithms. Wind-Driven Optimization groups sensor nodes in each IoT network into an optimum number of clusters, and Firefly chooses an ideal CH for each cluster. Temperature, energy, load, and living nodes determine CH selection. Each cycle of CH selection is improved, increasing the IoT network's lifespan. There is not enough optimization of the routing protocol for the packets depending on the context.

In steep areas, skiers and ski lifts must clear forests to create a place. The absence of trees affects ecology and wood-dwelling species. Skiing is environmentally detrimental in this sense. Progress toward attaining that utilizes fossil fuels emits greenhouse gases and causes climate change. Ski lifts are normally electrically operated, and one for a month consumes as much energy as 3.8 families for a year. Climate change may reduce ski trips and skiers' per-day value due to snow oversupply. Ski resorts are upgrading their sustainability standards and reducing emissions while devising new economic tactics for bad snow. Snow contributes to the planet's climate. Snow keeps the earth's temperature steady, and as it melts, the water refills streams and lakes in many locations, notably the western U.S. These issues motivate us to develop Internet of Things (IoT) based venue structural optimization in skiing.

3. Proposed Methodology

In this paper, we investigate the influencing factors of the spatial layout of ski venues in China and the influence of Internet of Things technology on their structural optimization. The economic well-being of mountain towns would be boosted by the development of ski resorts. There has been a dramatic increase in the number of ski resorts in China, which has contributed to the industry's rapid growth. Figure 2 shows the proposed methodology. This study utilizes nearest neighbor ratio (NNR) analysis and the Spatial Lorentz Curve to analyze the spatial configurations of these locations. Hotspots may be identified with the use of kernel density estimation (KDE). In addition, a regression analysis was used to identify the factors that have an impact on the geographical distribution. We also consider that Internet of Things (IoT) technology impacts venue structure optimization.

3.1. Dataset. On October 11, 2019, the position of each ski venue was gathered using a mapping site, and multi-source information ("e.g., search engine, reviews of China's ski venues") has been used to verify its integrity and validity. ArcMap10.2 was used to transform the coordinates of 776 confirming specimens into geographic information system point data. Researchers examined whatsoever of China's ski areas (776) and those with aerial lifts to determine the geographical distributions kinds of ski areas and also the key influencing variables (162). The Chinese Institute of Natural Sciences' resources in the area of cloud-based data service provided contour, slopes, or topography alleviation information, which had been calculated to use the Radarsat Mission 90 m accuracy digital elevation model (DEM). The values reflect the subsurface temperature dataset in China from 1981 to 2010, and the DEM of the SRTM using ArcGIS acquired through China's weather shared data service delivery system was utilized in the winter month study. The

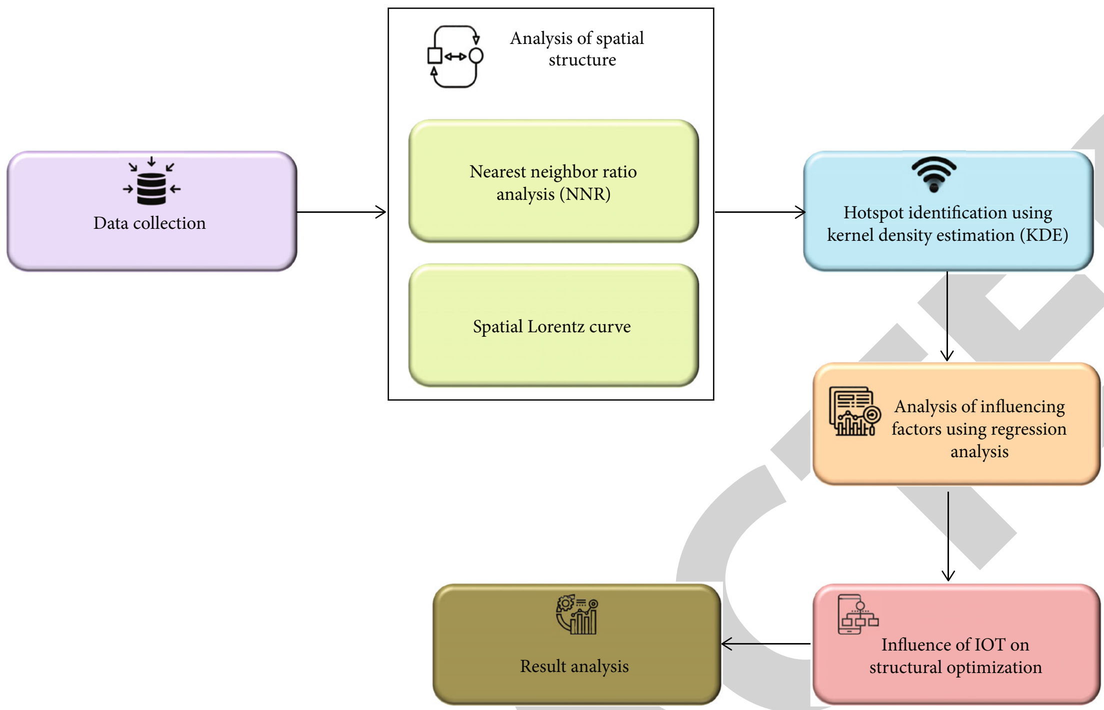

Figure 2: Proposed methodology (source: author).

dataset includes station attributes ("e.g., station ID, longitude, latitude") as well as mean monthly climatic variables ("e.g., temperature, humidity, precipitation, wind speed") from 825 weather observation points in China. It has been extensively utilized in weather patterns lab experiments.

3.2. Analysis of the Spatial Structure

(1) Nearest neighbor ratio (NNR) analysis

The ArcGIS closest average neighbor function is a useful tool for assessing geography scientifically using an R-value and a Z-score. The R-value was determined using the ratio between the observed and random average distances, indicating whether clustered and scattered these data were. The estimated R value's statistically significant difference was shown by the Z-score.

A strong positive/negative Z-score showed a high level of confidence inside the computed R-value. If the R-value was less than one, the distribution was termed crowded. If the ratio was larger than 1, it was scattered. The nearer the R-value was to zero, the more grouped the dots were. Statistical significance was defined as a p-value of less than 0.05.

(2) Spatial Lorentz curve

NNR, Gini coefficient, and the spatial Lorentz curve were used to examine the economic spatial structure of major tourism destinations in China (10.1109/GEOINFORMATICS.2010.5567808). In a given area, the NNR refers to the collective closeness of juncture entities. The mean of the NNRs of all locations in a region is called the median nearest neighbor ratio (NNR) $\bar{s}_j$. The NNR is the hypothetical NNR $\bar{s}_j$ if the vertices are scattered arbitrarily.

$$\bar{s}_F = \frac{1}{2\sqrt{n/B}} = \frac{1}{2\sqrt{E}}. \quad (1)$$

n and E are the number and density of federal tourist venues, correspondingly. The ratio of the mean NND to the theoretical NND is known as the NNI S:

The NNI S is the ratio of the mean NND to the theoretical NND:

$$S = \frac{\bar{s}_j}{\bar{s}_F}. \quad (2)$$

When $S > 1$, point components were evenly dispersed; when $S = 1$, point elements are randomly dispersed; when $S < 1$, point components are clustered in particular locations. The NNR is generated using ArcGIS 10.2 and regional tourist destinations are abstracted as point-like components. Distance measure has been used to calculate the straight-line distance between two places. The mean NNR $\bar{s}_j$ was 174.85 kilometers, the hypothetical NNR $\bar{s}_F$ was 225.15 kilometers, and the NNR S=0.7765931 kilometers. The findings demonstrate that China's new tourism destinations are centered in small towns. The Gini index is often used to determine the difference in dispersion and change law of point-like objects in geographical areas. The contrast with the distributed overall average from the Lorentz curve of space makes the measure less contrastive and compelling. The Gini coefficient is the ratio of inequality. Gini is defined:

$$I = -\sum_{j=1}^{N} q_j \operatorname{In} q_j, \quad (3)$$

$$I_a = \operatorname{In} N \, G_{ini} = \frac{I}{I_a}, \quad (4)$$

$$D = 1 - G_{ini}, \quad (5)$$

where D is the regularity of the allocation; q_j is indeed the proportion of national venue areas in a provincial to the overall number of federal venue areas, and N is the number of districts. The $G_{ini} \in [0, 1]$ is a good association with intensity and a negative association with D.

3.3. Hotspot Identification Using Kernel Density Estimation. The KDE was chosen to identify hotspots in China's national tourism venues' spatial distribution. The KDE technique can detect hotspots in event dispersion and assess changes in event intensity using complicated range reduction. With the help of a sliding window, the geoinformation system (GIS)-based KDE can be accomplished and outputs the points or cubic density of each grid. This approach visualizes the point components on a map before identifying the point distribution hotspots in the space. A location with a high point density is more prone to behave occurrences, but such an area has a deep hue.

Let $y_1, y_2, \cdots, y_n$ be independent identically distributed data extracted from a population using the distributions sampling distribution. The Parzen–Rosenblatt kernel density $f_n(y)$ may thus be stated at position x.

$$f_n(y) = \frac{1}{ni} \sum_{j=1}^{n} l\left(\frac{y - y_j}{i}\right). \quad (6)$$

3.4. Analysis of Influencing Factors Using Regression Analysis. It represents the response variable by using probabilities associated with Y values. (y) represents the probability of $Y = 1$, which is ROP. Similarly, $1 - (z)$ is the probability of $Y = 0$, which represents the absence of ROP. These probabilities are expressed as follows:

$$\pi(z) = U(Y = 1 | Z_1, Z_2, .., Z_n), \quad (7)$$

$$1 - \pi(z) = U(X = 1 | Z_1, Z_2, .., Z_n), \quad (8)$$

$$Jn \frac{U(Y = 1 | Z_1, Z_2, .., Z_n)}{1 - U(Y = 1 | Z_1, Z_2, .., Z_n)} = Jn \frac{\pi(z)}{1 - \pi(z)} = \beta_0 + \sum_{j=1}^{n} \beta_j Z_j. \quad (9)$$

Using the inverse of the equation's log it transformation, we get:

$$U(Y = 1 | Z_1, Z_2, .., Z_n) = \frac{f^{\beta_0} + \sum_{j=1}^{n} \beta_j Z_j}{1 + f^{\beta_0} + \sum_{j=1}^{n} \beta_j Z_j} = \frac{1}{1 + f^{-(\beta_0} + \sum_{j=1}^{n} \beta_j z_j\big)}. \quad (10)$$

They fit the data using logistic regression. First, we need a method for predicting the parameters. Maximum likelihood is used to estimate parameters. It builds the likelihood function, which describes the observed data's probability as a function of unknown parameters. Then, get the parameters' likelihood estimators that maximize the likelihood function. They have chosen the estimators that best predict the observed data.

$$\zeta(Z_k) = \pi(Z_k)^{Y_k} \left[1 - \pi(Z_k)^{1 - Y_k}\right]. \quad (11)$$

This equation only accounts for one piece of data. Assuming the observations are independent, we may multiply their likelihood contributions to get the full likelihood function. Equation (12) gives the result:

$$L(B) = \prod_{k=1}^{n} \zeta(Z_k). \quad (12)$$

Maximum likelihood estimates (MLEs) are derived by maximizing $l(B)$. The likelihood function is maximized when the logarithm is taken. In Equation (13), $l(B)$ stands for log-likelihood.

$$D = -2Jn[l(B)]. \quad (13)$$

Computer programmers can fix the problem. SAS will be utilized to execute the logistic regression analysis and obtain the maximum likelihood estimates for this project.

$$\sum_{k=1}^{n} Z_{km} [Y_k - \pi(Z_k)] = 0, \text{for } M = 1, 2 \cdots .., j. \quad (14)$$

So the rest of this study looks at SAS's estimated multivariate regression model parameters.

3.5. Influence of IoT Structural Optimization. The Internet of Things, or IoT, is a network of interconnected computers, mechanical and digital equipment, goods, wildlife, or people that have unique identifiers (UIDs) as well as the ability to communicate data without the need for sentience or intelligent interaction. The sensor node is made up of four pieces on average. Power, communications, processing, and sensing modules are the four types of modules. Some include the aspects, including mobile phone modules and positioning device components, which may be installed in some particular circumstances, having varied applications, to give additional capabilities for users to use, while sensor nodes can monitor several of the surrounding surroundings. Altitude, soot, velocity, moisture, and warmth are all common indicators. Each sensor network has a coverage area that allows it to correctly communicate all recorded circumstances. Physical signal sampling transforms into electrical impulses and a controller. The controller and audio translation are all causes of energy usage in the sensors.

Due to the high connection between both the sensor nodes and application areas, this same location data locates the base station and utilizes the computational and data

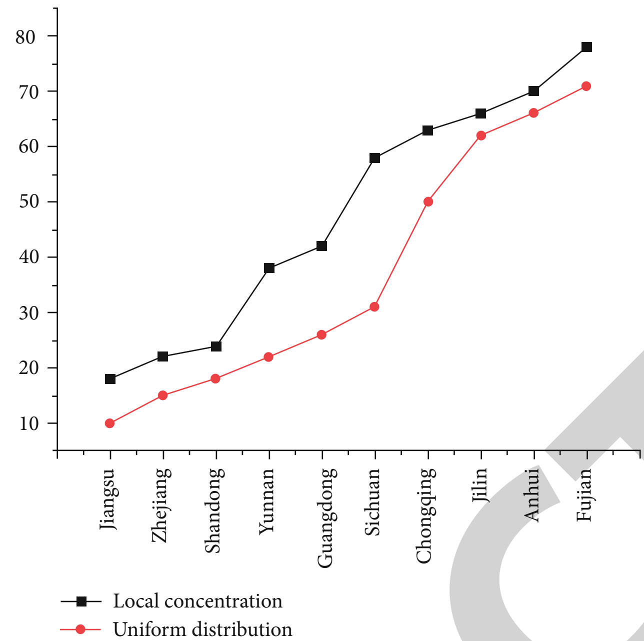

Figure 3: Provincial Lorenz curves of national ski venues in China.

functionality to perform the data fusion; due to the high connection between both the sensor network and application areas, this same location data locates this same node as well as uses the storage and computing functionality to perform the data merging.

The smart sensor network's successful creation is to first place a large number of devices in the allocated sensing area, forming one or even more dispersed systems and networks due to self and collaboration for every node, and afterward employ sensors that sense and collect information in real-time from designated places. The original data of the region, including such heat, pressure, movement, direction, and noise, is then saved in the appropriate storage unit, and afterward determined if to interact or combine data based on the demands of the network or neighbor node data. Ultimately, the aggregate nodes are transferred across the public networks to the cooperative web or even the computer center for comprehensive data screening and analysis.

The sensor network creates a wider sensor node group that is dispersed across our nearby monitored region. They self-organize into a net is indeed an embedded device architecture that gathers local data through a cell with limited power, analyzes, stores, maintains, and combines data forwarded by the other node. To convert the network communication, the converging node is linked to a sensor show's outside network or the Internet. At the same time, it releases its control node's surveillance responsibilities and transmits the information to the public networks.

4. Result

In this paper, we investigate the influencing factors of the spatial layout of ski venues in China and the influence of Internet of Things technology on their structural optimization. The parameters are accuracy and error rate. The existing methods are artificial intelligence (AI), machine learning (ML), neural network (NN), and decision-tree model (DTM).

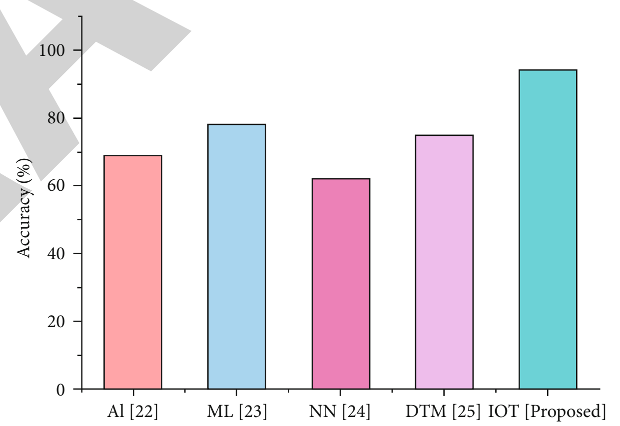

Figure 4: Comparison of accuracy for existing and proposed work.

Figure 3 depicts the comparative evaluation of accuracy with AI, ML, and IoT.

Accuracy measures how many accurate predictions a classifier produced about the label's actual value. Figure 4 depicts the comparative evaluation of accuracy with AI, ML, and IoT. The proposed Internet of Things is evaluated with the accuracy of percent. The comparison results demonstrate that the proposed method performs higher than the current methods.

Comparative evaluation of neural network (NN) and decision-tree model (DTM) is shown in Figure 3.

Figure 3 depicts the comparative evaluation of accuracy with NN, DTM, and IoT.

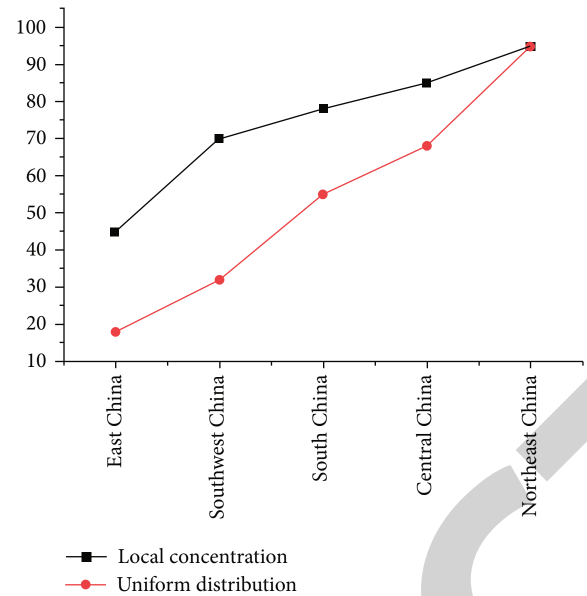

FIGURE 5: Regional Lorenz curves of national ski venues in China.

The neural network (NN) and decision-tree model (DTM) were all accurately evaluated. The proposed Internet of Things is evaluated with the accuracy of percent. The comparison results demonstrate that the proposed method performs higher than the current methods.

When compared to the existing work [artificial intelligence (AI), machine learning (ML), neural network (NN), and decision-tree model (DTM)], the proposed method has greater accuracy. The AI techniques have 69%, ML techniques have 78%, neural techniques have a 62%, DTM has a 75%, and the proposed method IoT has a 94%.

4.1. Provincial Lorenz Curves of National Ski Venues in China. On provincial governments, Gini =0.7712 and $C = 0.2288$ may be computed. As a result, national touristic attractions are centered in local regions and scattered unevenly. The provincial Lorenz curves show that "Jiangsu, Zhejiang, Shandong, Yunnan, Guangdong, and Sichuan" have the most national tourist destinations (60 percent). As a result, China's national tourism venue allocation is very imbalanced. Figure 3 shows provincial Lorenz curves of national ski venues in china.

4.2. Regional Lorenz Curves of National Ski Venues in China. On a regional scale, Gini =0.6786 and $L = 0.3214$, showing that regional touristic attractions are clustered in local regions and therefore are not dispersed equitably. The regional Lorenz curves show that majority of national venue areas (73.33 percent) are clustered in East and Southwestern China, with nothing in Northwest China. The location of national tourist venues varies significantly by area. Figure 5 represents the regional curves of national ski venues in china.

4.3. Kernel Densities of National Ski Venues. According to the kernel densities, the Yangtze River Delta (northern Zhejiang and southern Jiangsu) in East China, the minority settlement area in South China (central Yunnan), the Yellow River Delta (Jiaodong peninsula) in East China, and the Pearl River Delta (central Guangdong) in South China are the four hotspots in the spatial distribution of national tourist venues in China. Figure 6 shows kernel densities of national ski venues.

5. Discussion

There are various factors in artificial intelligence (AI) [21] that the user must understand or specify; the typical learned rules are contradictory, and the inputs are limited. A great number of scientific findings must be collected; calculations are expensive; variable discretization is required, and the system's accuracy and reliability are reliant on it. [22] In the field of machine learning, the cost and time attack batches need to construct modeling approaches are among its biggest disadvantages. Standard models also perform poorly when applied to complex chemicals, making them ineffective in predicting the properties of a wide range of substances. In neural networks (NN) [23], the most significant drawback of a neural network is that this is a black box. Since it might estimate any function, examine its architecture, but do not provide information about the feature getting estimated. In [24], decision-tree model (DTM) a little fall in the price might cause a significant change in the design of the tree structure, leading to instability. Decision trees may well have substantially more complicated computations than other systems [25]. A tree building's training time is usually lengthier. As a result, we use closest neighbor ratio (NNR) analysis and the Geographical Lorentz Curve to comprehensively investigate the spatial distribution of these venues. KDE is used to discover hotspots. Additionally, a regression model was used to determine the characteristics that influence the geographical distribution. The impact of the Internet of Things (IoT) on the structural optimization of these venues is also investigated.

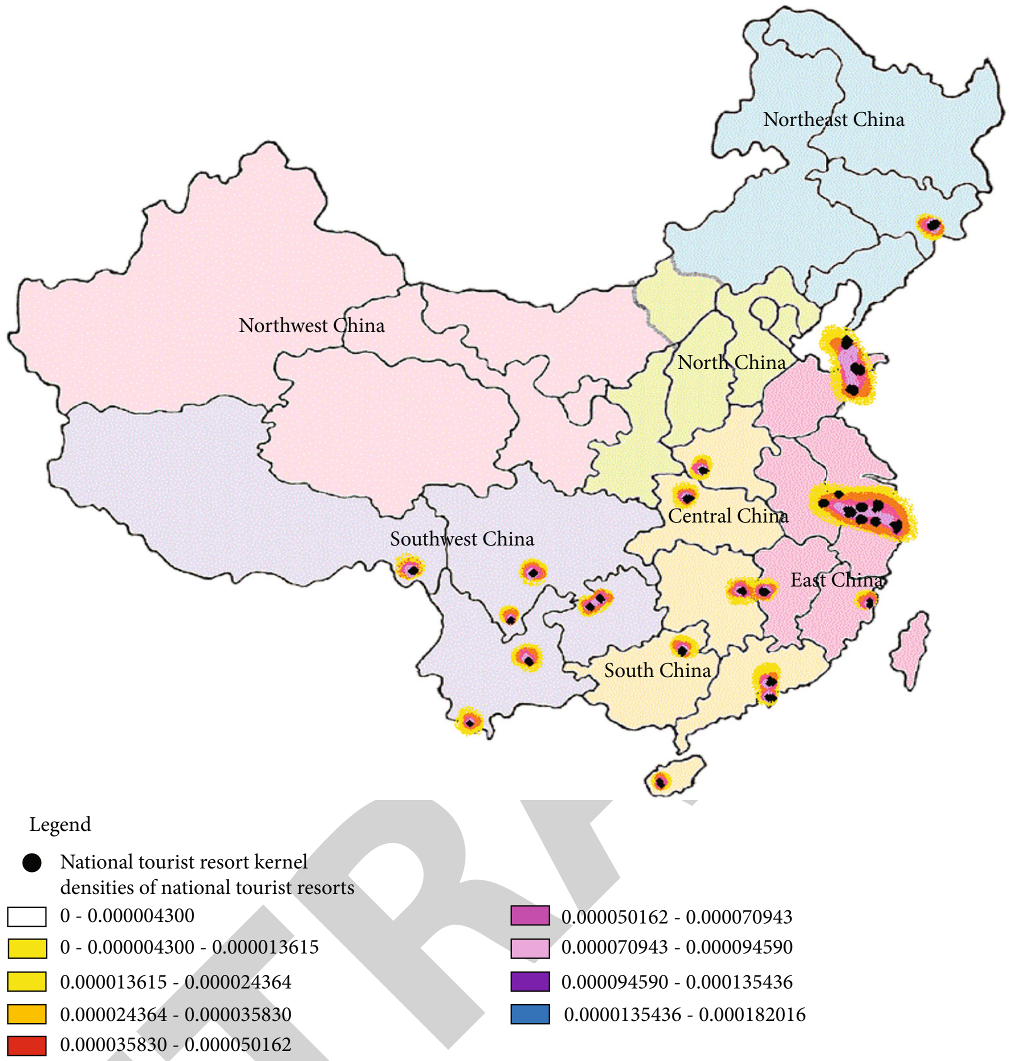

FIGURE 6: Kernel densities of national ski venues.

6. Conclusion

In this paper, we investigate the influencing factors of the spatial layout of ski venues in China and the influence of internet of things technology on their structural optimization. According to our research, China's tourist destinations have gone through two phases. The majority live in lakes, mountains, hot springs, and beaches. Most of these locations are in East, West, Southern, and Central China. Tourism, investment, and other elements alter geographical distribution. Due to data availability, this research could only assess ski regions, neglecting time and space. Dynamic examination of the new ski resorts' distribution and affecting variables proved difficult. Future studies must incorporate ski venue sustainability in site choices. Sustainability is vital for ski venue operations. A ski venue's ecological environmental factors affect soil, flora, animals, and river pollution. Future ski area allocation studies must evaluate ecological services and carrying capacity. Future work might include engaging with local business partners, industry allies, and residents to support skiing venues' lengthy economic viability. Future research should analyze ski venue development's social advantages for social sustainability. Ski venue construction might be more sustainable and lengthy after these assessments.

Data Availability

The data used to support the findings of this study are available from the corresponding author upon request.

Conflicts of Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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