

## Research Article

# Artificial Intelligence Search and Language Landscape Translation Optimization under 5G Network

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In the process of building a city, the content of the language landscape directly reflects the level of development and civilization of the city. The language landscape of each city will change with the changes in humanities and local characteristics, so the translation of the language landscape is very important. This article analyzes the language landscape of a city in detail, introduces the meaning of the language landscape in detail, and also corrects the errors in the city's language landscape translation process, and introduces people to the language landscape. In today's social development process, the fifth-generation communication technology has gradually developed and matured, bringing more convenience to people's daily lives. However, the upgraded communication technology still faces the problem of processing a large amount of data, and the traditional network system may not be able to bear the current data processing pressure. The emergence of artificial intelligence technology has created opportunities for the upgrading and development of communication technology. It can process a variety of complex data information at the same time and provide help for the smooth operation of the network system. The use of this communication network can also solve the deployment problem of network nodes and improve the efficiency and quality of language landscape translation to a certain extent.

## 1. Introduction

During the development of language landscape, a large number of researchers have analyzed the application and translation of language landscape from the perspective of different disciplines. In 1997, scholars Landry and Bourhis first used the term "language landscape" as a professional term to analyze the use of various slogans in the city in the process of researching problems [1]. It can be seen from the production and use process of the language landscape that there is still a lot of room for improvement in the research and development of this field, which is a relatively new content for the research field [2]. In the follow-up research process, research scholars from various countries and regions around the world explored the details of the language landscape based on the characteristics of the language landscape in real life, using the knowledge of multiple disciplines [3]. With the deepening of research, researchers in various countries have also developed their own unique

understanding of language landscape. Many books on language landscape have also appeared on the market [4]. People can better grasp the characteristics of language landscape by analyzing the theoretical results in books. And specific usage characteristics [5].

In the application of new communication technologies, the consumption speed of data traffic is also increasing, and traditional communication systems are facing great challenges [6]. For traditional communication systems, the operating speed of the Internet platform continues to increase with the upgrading of communication technology, and traditional systems may not be able to withstand the pressure of rapid system operation [7]. In addition, the increase in the amount of data may put higher requirements on the endurance of terminal devices. New communication technologies need to support the operation of terminal devices that can support intensive calculation and data transmission [8]. In the process of continuous development of Internet technology and computer network technology,

the amount of information generated in the network is also increasing. Although this can provide people with more complete information reference, the search and search of information is also an important issue in the era of information explosion [9]. In the long-term development, the emergence of search engines and search websites has provided convenience for people to find information. When designing a search engine, the writing of a web crawler program is very important. The program is an important guarantee for searching information. It can provide the original content of the information for the search engine [10]. With the continuous improvement of information processing requirements, the search methods used by traditional search engines can no longer meet the needs of people searching for information, and the use of traditional search engines will increase the pressure on the operation of the network platform to a certain extent [11]. In the process of the operation of traditional search engines, the platform cannot shield information that users do not need. The platform will search for a variety of similar information at the same time. During the operation, the links to these information are likely to increase the burden of system operation [12]. This article analyzes the important role of artificial intelligence technology and 5G technology in language landscape translation. The use of advanced communication networks can also solve the deployment of network nodes and improve the efficiency and quality of language landscape translation to a certain extent.

## 2. Related Work

The literature analyzes the resource allocation problem of D2D communication network [13]. In the process of searching for information, the number of users on the network platform is likely to increase the difficulty of information search. The article uses the SA algorithm to reasonably configure the information resources in the network. To a certain extent alleviate the contradiction between network information resources and network platform users, the use of D2D communication network can relieve the pressure of network operation to a certain extent, can provide users with high-quality information search services, and reduce the impact of wrong information on information search. The literature analyzed the role of 5G communication technology in solving the rigid problem of network structure [14]. In the future development, 5G communication network can optimize the network structure and provide more advanced technology for the construction of network platform. The article also studied the mapping problems that occurred during the operation of the virtual network based on the analysis of the converged network architecture, and introduced people to the network architecture that can handle multiple services. This network architecture can comprehensively utilize the physical facilities and information resources of the network platform to realize the establishment of a virtual network, the connection between mobile services and fixed services can be established, and the efficiency of information resource allocation can be improved. The literature uses the

theory of network centrality to analyze the topological structure of virtual network nodes and physical nodes, and researches on node expansion resources [15]. This article analyzes the construction of a 5G wireless virtual network. In the process of analysis, the data calculated by the algorithm is also used to construct a metric model of virtual network nodes and physical nodes, and summarizes the impact of wireless network connection on information search and network resource allocation [16]. In further analysis, the article analyzes the problems faced by the virtual network in the process of resource allocation and the challenges in its development. It is believed that the use of artificial intelligence search technology can better analyze the translation problems of the language landscape, and can improve the language landscape and help with translation work [17].

## 3. Artificial Intelligence Search and 5G Wireless Network

*3.1. Artificial Intelligence Search Program.* Antennas are an important guarantee for virtual network construction. Analysis of the performance of antennas requires analysis of parameters such as resistance, reflection coefficient, and bandwidth. The detailed classification is as follows:

### 3.1.1. Circuit Characteristic Parameters of Antenna

(1) *Input impedance.* The input impedance of the antenna will be affected by factors such as the size and specific structure of the antenna itself. Its calculation formula is as follows:

$$Z_{in} = \frac{U_{in}}{I_{in}} \quad (1)$$

(2) *Reflection coefficient and return loss.* In the process of antenna transmission of current, if the antenna cannot find the transmission efficiency that matches itself, the incident wave will be reflected. The reflection coefficient can be used to describe the relationship between the reflected wave current of the antenna and the incident wave current. The formula is as follows:

$$\Gamma = \frac{U_r}{U_i} = \frac{Z_L - Z_0}{Z_L + Z_0} \quad (2)$$

In the process of analyzing engineering problems, the magnitude of the reflected wave coefficient can reflect the matching degree of the antenna and the system transmission line. At this time, the matching degree can be called the return loss. The calculation formula is as follows:

$$L_r = -10\lg|\Gamma|^2 = -20\lg\left|\frac{Z_L - Z_0}{Z_L + Z_0}\right| \quad (3)$$

(3) *Standing wave ratio.* This parameter also indicates the degree of matching between the antenna and the

transmission line. When the antenna does not match the transmission line, the reflected wave and the incident wave will be synthesized in three different states. The standing wave ratio can reflect the voltage, and the relationship between the valley voltage and the reflection coefficient can be expressed by the following formula:

$$SWR = \frac{1 + |\Gamma|}{1 - |\Gamma|} \quad (4)$$

(4) *Bandwidth*. Antennas can transmit current for different types of communication networks. Bandwidth measures the bandwidth of the antenna when it is working. Assuming that the antenna is not in operation, the calculation formula for bandwidth is as follows:

$$2\Delta f = f_H - f_L \quad (5)$$

### 3.1.2. The Radiation Characteristic Parameter of the Antenna

(1) *Directional map*. The situation of the antenna receiving and radiating radio waves will change according to the direction of the radio waves of the radiated field. The directivity function can be used to analyze the specific situation. The expression of the function is as follows:

$$F(\theta, \phi) = \frac{|E(\theta, \phi)|}{|E_{\max}|} \quad (6)$$

(2) *Lobe width*. This parameter is an important part of the directivity function. The width of the lobe determines the radiation energy of the antenna. The size of the width varies, and the radiation energy possessed by the antenna will also change. Through specific calculation and analysis, we can know that the smaller the width of the lobe, the more concentrated the radiation energy possessed by the antenna, and the easier it is to determine the direction of radiation.

(3) *Polarization method*. In the working process of the antenna, the polarization characteristic is an important index to describe the working efficiency of the antenna, which is also an important parameter to ensure the working state of the antenna. The polarization characteristics of the antenna can well describe the movement track of the antenna in the electric field. If the antenna does not have the polarization characteristics, then the antenna cannot receive effective electromagnetic wave signals.

In the process of calculation and analysis, it is necessary to calculate the weights of different modules so that the importance of different modules in the composition of information can be judged. With the development of quantum theory, researchers have combined the application of this theory with genetic algorithms and proposed quantum genetic algorithms. This algorithm can analyze the changes of chromosomes in each generation and has a relatively good convergence effect in actual calculations.

In the process of using the quantum genetic algorithm, the characteristics of the population can be updated by using the quantum gate. This operation is the specific embodiment of the normalization of the characteristics of the population. In the calculation process, the invertible matrix can also be changed to obtain the specific calculation formula for the population characteristics that people want, which is as follows:

Quantum gate operation is another important innovation in the quantum genetic algorithm, through which the update calculation of population can be realized.

$$\begin{bmatrix} \alpha_i \\ \beta_i \end{bmatrix} = \begin{bmatrix} \cos \theta_i & -\sin \theta_i \\ \sin \theta_i & \cos \theta_i \end{bmatrix} \begin{bmatrix} \alpha_i \\ \beta_i \end{bmatrix} \quad (7)$$

Through calculation and analysis, the quantum rotation angle can be obtained. People can adjust the quantum rotation gate according to the needs of analysis. The details are shown in Table 1.

In the process of analyzing engineering problems, the processing of multiobjective optimization problems is an important content to ensure the smooth progress of the project. In the process of calculating engineering losses, objective optimization problems mostly describe the comprehensive design of multiple objectives. Solve the problem that multiple targets are constrained by different construction conditions in the process of project construction. In the process of solving the multiobjective optimization problem, the difference between each objective will lead to conflicts in the process of integration and operation of different objectives. If the benefits of multiple objectives in the overall project cannot be considered comprehensively, a change will occur. Small subgoals may cause changes in the performance of other multiple goals and the overall goal. Through specific analysis, it can be known that only changing the operating status of the subgoals cannot optimize the overall operating results. Only by coordinating the relationship between the various objectives in the operating process and adopting appropriate methods to deal with the contradictions of each objective, the overall project can be optimized. Through the above analysis, we can know that in the process of solving multiobjective optimization problems, there are many results obtained by formulas, which are expressed as follows:

$$\begin{aligned} \min f(x) &= [f_1(x), f_2(x), f_3(x), \dots, f_n(x)]^T, \\ \text{s.t. } x &\in XX \subseteq R^m. \end{aligned} \quad (8)$$

When dealing with multiobjective optimization problems, people usually use three different decision-making techniques. The differences and connections of these three techniques are shown in Table 2.

In the process of designing the artificial intelligence search program, the use of A\* algorithm can ensure that the constraint conditions of multiple targets are consistent to a certain extent. The specific search process of the search program is shown in Figure 1.

In the process of information search, two different tables need to be used to record the data generated by nodes. The details of these two tables are shown in Table 3.

TABLE 1: Quantum revolving door adjustment strategy.

$x_i$	$f(x) \geq f(b)$	$\text{best}_i$		$S(\alpha_i, \beta_i)$			
		$\Delta\theta_i$		$\alpha_i, \beta_i > 0$	$\alpha_i, \beta_i < 0$	$\alpha_i = 0$	$\beta_i = 0$
0	0	0	False	0	0	0	0
0	0	0	True	0	0	0	0
0	1	0	False	0	0	0	0
0	1	0.05 $\Pi$	True	-1	+1	$\pm 1$	0
1	0	0.01 $\Pi$	False	-1	+1	$\pm 1$	0
1	0	0.025 $\Pi$	True	+1	-1	0	$\pm 1$
1	1	0.005 $\Pi$	False	+1	-1	0	$\pm 1$
1	1	0.025 $\Pi$	True	+1	-1	0	$\pm 1$

TABLE 2: The difference between the three multiobjective optimization techniques.

Technology classification	Priority priority technique	Priority evolution technology	Posterior priority technique
The relationship between decision and search	Decision $\longrightarrow$ search	Decision $\leftrightarrow$ search	Decision $\longleftarrow$ search

**3.2. The Key Technology of 5G Wireless Network Communication.** From the perspective of theoretical analysis, look at the use of the D2D communication network. The D2D communication network can reasonably configure the resources in the uplink and downlink of the cellular network system. However, in the actual application process, there is an asymmetry between the uplink and the downlink, which will increase the burden of the network server to a certain extent, and cause the information resources of the uplink and the downlink to be the same. During the operation of the cellular network, the downlink spectrum resources cannot be reasonably used, and the uplink information resources of the D2D communication network may be affected by the base station, which may cause configuration problems. From the previous analysis, we can know that when designing a D2D communication network, we must grasp the resource allocation of the uplink and promote the sharing of uplink and downlink resources. In the process of searching for information, the excessive number of network platform users is likely to increase the difficulty of information search. The article uses SA algorithm to reasonably configure the information resources in the network, which relieves network information resources and network platform users to a certain extent. The contradiction between the use of D2D communication network can relieve the pressure of network operation to a certain extent, can provide users with high-quality information search services, and can also reduce the impact of misinformation on information search. The technology used in the D2D communication network has a broad development prospect. The details of the artificial intelligence search model constructed by the D2D communication network in this article are shown in Figure 2.

In order to distinguish the functions of the various modules of the communication network, when constructing

the model, the dashed part is used to indicate that users of the communication network are using a resource; yellow is used to indicate the connection relationship between the communication modules, and the red dashed line is used to indicate communication resources. For the interference received during the configuration process, the arrow indicates the direction of the interference. In a relatively small cellular network structure, the center part of the figure is the location of the base station, and users of the cellular network are distributed around the base station.

When constructing the search model, this article first analyzes the resources of users who use D2D communication networks, and uses users' shared resources to improve the efficiency of cellular network users' use of resources, which can not only improve the cellular network to a certain extent. The throughput of the system can also meet the needs of network users. During the operation of the system, the shorter the waiting time of the uplink and the downlink, the more likely the users of the two communication networks will share network resources.

### 3.2.1. Power Optimization Problem.

- (1) In the process of analysis, we must first determine the resources that can be shared by the two communication networks, increase the system throughput of the cellular network by sharing resources, and improve the satisfaction of network users. The throughput calculation formula of the two communication networks is as follows:

$$r_{C_i} = \frac{P_{C_i} G_{C,B}}{\sigma^2 + P_{D_i} G_{D,B}} \geq r_{\min}^C,$$

$$r_{D_i} = \frac{P_{D_i} G_{D,D}}{\sigma^2 + P_{C_i} G_{C,D}} \geq r_{\min}^D, \quad (9)$$

$$0 \leq P_{C_i}, P_{D_j} \leq P_{\max}.$$

- (2) Optimal power distribution.

In order to improve the efficiency of power allocation, this article uses the method of optimal power and resource allocation to ensure the throughput and service quality of the two communication networks. The calculation formula of the relevant values is as follows:

$$R_{D_j} = B \log_2(1 + r_{D_j}),$$

$$R_{C_j} = B \log_2(1 + r_{C_j}), \quad (10)$$

$$R_{MN} = \sum_{i=1}^M R_{C_i} + \omega \sum_{j=1}^N R_{D_j}.$$

When analyzing the relationship between the operating waiting time of the uplink and downlink of the D2D communication network and the system throughput, this study will denote the operating waiting time as  $t$ , and use  $R$  to

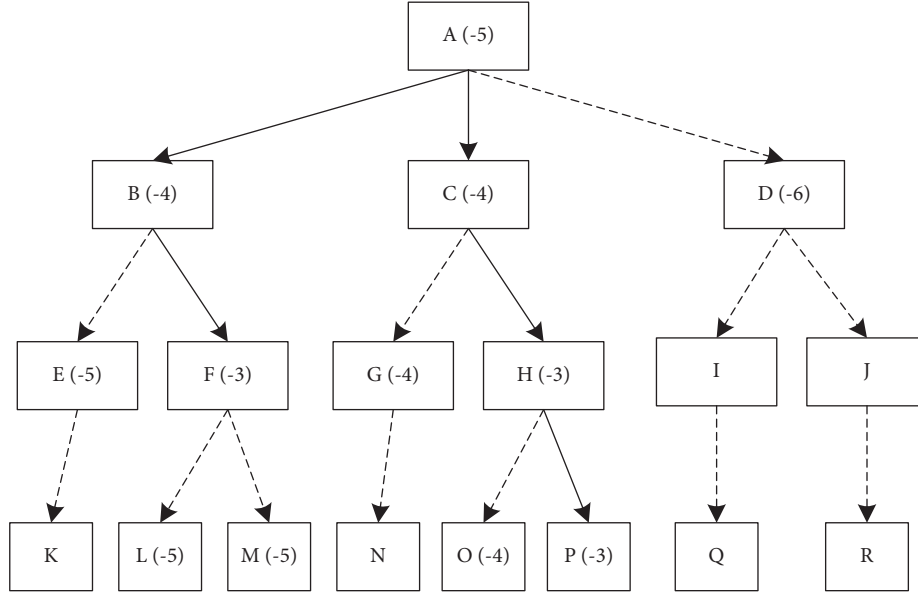


FIGURE 1: The specific search process of the search program.

TABLE 3: Data generated by the node.

Open table	Closed table
Initialize a (-5)	NULL
After one treatment B(-4)C(-4)D(-6)	A(-5)
After secondary treatment F(-3)C(-4)	B(-4)A(-5)
E(-5)D(-6)	
After three treatments C(-4)L(-5)M(-5)	F(-3)B(-4)A(-5)
E(-5)D(-6)	
After four treatments H(-3)G(-4)L(-5)	C(-4)F(-3)B(-4)
M(-5)E(-5)D(-6)	A(-5)
After five treatments P(-3)O(-4)G(-4)	H(-3)C(-4)F(-3)
L(-5)M(-5)E(-5)D(-6)	B(-4)A(-5)
Get the target node P after six processing	

represent the impact of the operating time on the throughput. The calculation formula is as follows:

$$R'_{MN} = \sum_{i=1}^M R_{C_i} + \frac{\omega \sum_{j=1}^N R_{D_j}}{t}. \quad (11)$$

The power distribution formula can be obtained through the above formula, and the formula is as follows:

$$\left( P_{C_i}^*, P_{D_j}^* \right) = \operatorname{argmax}_{\left( P_{C_i}^*, P_{D_j}^* \right) \in \Delta} R'_{MN}. \quad (12)$$

The conditions that the parameters in the formula need to meet are as follows:

$$\begin{aligned} r_{C_i} &\geq r_{\min}^C, r_{D_j} \geq r_{\min}^D, \\ 0 &\leq P_{C_i}, P_{D_j} \leq P_{\max}. \end{aligned} \quad (13)$$

When the power of the two communication networks exceeds the maximum value, it indicates that users of the two networks cannot share resources.

If the coordinates of point A are

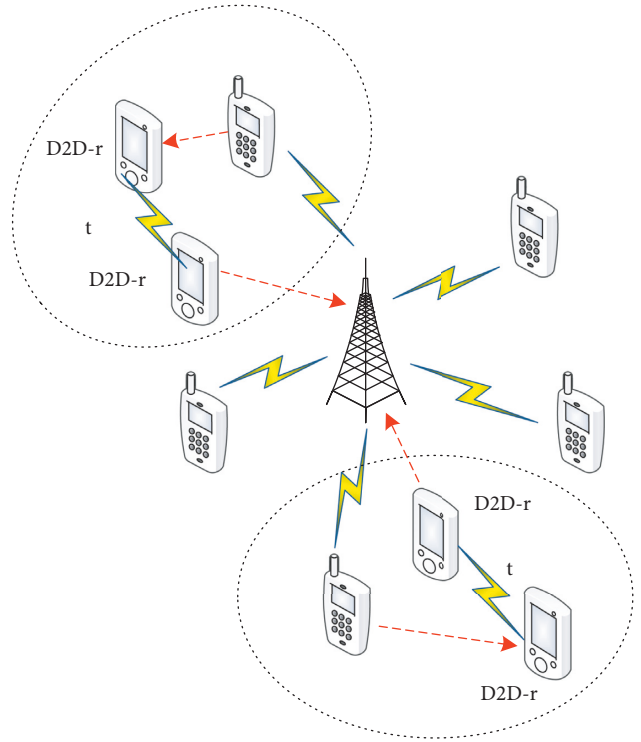


FIGURE 2: Cellular network D2D communication network system model.

$$\begin{aligned} P_{C0} &= \frac{r_{\min}^C \sigma^2 (G_{D,D} + r_{\min}^C G_{D,B})}{G_{D,D} G_{C,B} - r_{\min}^D r_{\min}^C G_{C,D} G_{D,B}}, \\ P_{D0} &= \frac{r_{\min}^D \sigma^2 (G_{C,B} + r_{\min}^C G_{C,D})}{G_{D,D} G_{C,B} - r_{\min}^D r_{\min}^C G_{C,D} G_{D,B}}. \end{aligned} \quad (14)$$

Among them,

$$P_{C1} = \frac{r_{\min}^C G_{D,B} P_{\max} + r_{\min}^D \sigma^2}{G_{C,D}}, \quad (15)$$

$$P_{C2} = \frac{G_{D,D} P_{\max} + r_{\min}^D \sigma^2}{G_{C,D} r_{\min}^D}.$$

When the users of the cellular network use the maximum power for data transmission, the optimal power for D2D communication network transmission will appear, which can be expressed as

$$P_{D2} = \frac{G_{C,B} P_{\max} - r_{\min}^C \sigma^2}{G_{C,B}}, \quad (16)$$

$$P_{D2} = \frac{G_{C,B} P_{\max} - r_{\min}^C \sigma^2}{G_{D,B} r_{\min}^D}.$$

*3.2.2. Description of Simulation Experiment Parameters.* There are many D2D communication network parameters that need to be analyzed in this experiment. The details of all parameters are shown in Table 4.

There are many cellular network parameters that need to be analyzed in this experiment. The specific conditions of all parameters are shown in Table 5.

The article also conducts an experimental simulation analysis of the annealing algorithm for the allocation of spectrum resources in some dense cellular networks and illustrates many advantages of the algorithm. In the process of analysis, the researchers used two different algorithms to explain the allocation and use of spectrum resources. The specific content is as follows:

(1) *Image color algorithm based on the base station as the allocation unit.* When determining the allocation of spectrum resources, the results obtained by using the BA algorithm to analyze the network environment are the same as the results obtained by the algorithm used in this article, but the BA algorithm can only allocate information resources in the cellular network. It will reduce the use efficiency of spectrum resources to a certain extent. In the process of experimental analysis, the researchers verified the algorithms used and compared the efficiency of the algorithms in configuring spectrum resources. Through actual analysis, we can know that the simulated annealing algorithm plays an important role in the resource allocation of each unit of the cellular network, and it can improve the performance of the entire system.

(2) *Image color algorithm based on the user as the allocation unit.* Through specific analysis, it can be known that the RA algorithm can analyze the direct interference relationship between network nodes and can detect the effective resources that can be used at the edge and center of the cellular network to a certain extent. The analysis results can be used as an important reference for resource sharing. Although the use of this algorithm can prevent network nodes from being

TABLE 4: D2D communication network system parameter description table.

System parameters	Value
Base station coverage radius	(300,600)m
D2D user distance	(20,40)m
Number of D2D users	(20,100)
Number of cellular network users	100
Base station transmit power	24 dBm
Base station antenna height	15 m
User antenna height	1.5 m

TABLE 5: Super-dense small cell communication network system parameter description table.

System parameters	Value
Total bandwidth B	10 MHz
White noise $\sigma^2$	-174 dBm/Hz
Circuit power $p_c$	0.05 w
Signal-to-noise ratio threshold $\gamma_0$	7 dB
Transmission power PI	20 dBm
Power amplifier coefficient E	0.38

interfered by many factors during operation, the specific situation of traffic usage is not fully considered in the process of using the algorithm, and reasonable resource flow and traffic consumption are not designed from the perspective of users. This may cause problems in the allocation of spectrum resources, and it is difficult for users to obtain the information they want. Through specific experiments and analysis, it can be known that the simulated annealing algorithm plays an important role in improving the utilization efficiency of spectrum resources in cellular networks and D2D communication networks.

*3.2.3. Construction of Optimization Problems.* In the development process in recent years, the use of undirected graphs to explain the problem of resource allocation in the network has become the main analysis method. When constructing undirected graphs, the base stations in the small cell network will usually be used. As an access node, the judgment is based on whether there is an interference relationship at the edge of each pair of nodes, and the entire cellular network is used as the key to the composition of the undirected graph.

In the process of network operation, if the wireless resource management mode is nonaligned, then when the resources arrive at different cellular units, the control center of the base station will allocate the resources to different network nodes according to the characteristics of the network structure. In order to ensure that the control center can smoothly allocate resources to the network nodes, each cellular unit must obtain relevant information from the base station. During operation, if the signal of the base station to which the cellular unit belongs is enhanced, the user can send the signal enhanced information to the cellular base station of the service center through the backhaul link. After

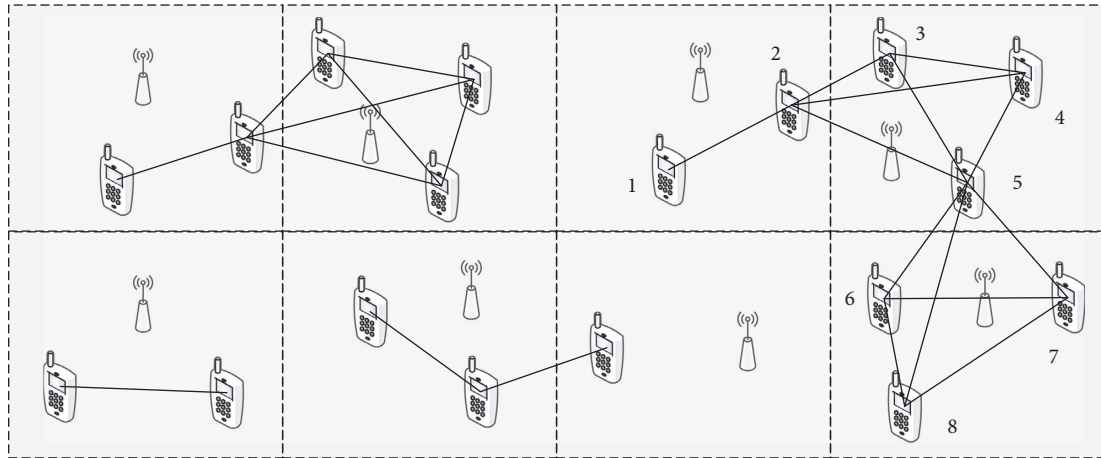


FIGURE 3: Interference relationship between users.

completing the above operations, the cellular base station will send the user’s interference information to the base station’s control center through the backhaul link. After the control center receives the interference information, it will manage the user’s interference and create new interference in the system. Matrix to draw undirected graphs of interference relationships.

By observing the information in the above figure, we can know that if the distance between the two cellular base stations is relatively close, then the user will not be interfered by the downlink when using the network, and the user can share downlink resources. In order to better explain the interference situation of the overlapping cells, this article simplifies the analysis model. The specific situation is shown in Figure 3.

#### 4. Language Landscape Translation Optimization

*4.1. The Current Situation of Language Landscape Translation.* In the process of building a city, the content of the language landscape directly reflects the level of development and civilization of the city. The language landscape of each city will change with the changes in humanities and local characteristics, so the translation of the language landscape is very important of. The content of the language landscape is inseparable from the political and economic development of a city. In the previous decades of development, the development of a certain city was not ideal, and the language used in this city was relatively single. In the recent years of development, China has more and more exchanges with many countries in the world. The types of languages used in the city have also been enriched, and the languages of various countries have shown signs of being used. With the increase in language types, the content of the language landscape of the city has also changed, and signs in different languages have begun to appear in the city.

*4.2. Optimization Strategies for Translation of Language Landscape.* To form a complete system for a language, it

needs to go through different stages of development and accumulate a lot of experience. The development of the language landscape is the same. In the development of the language landscape, it collided and merged with other languages, and finally became widely used. In the Chinese language education system, the teaching of multiple languages is an indispensable part, and the meaning contained in each paragraph of text is worthy of analysis. The language landscape in the city can help people in the city understand the culture of the city and can guide people to understand the cultural customs in the city. For the development of a city, the construction and translation of language landscape is an important measure to promote people from many countries and regions to understand the development of the city.

In the translation process, the final application purpose of the translated work is to guide the main direction of the entire translation process. The final application direction and scope of the translated document determines the specific operation of the translation process. For translators, to translate the content expressed in the language landscape, they first need to understand the characteristics of the language. Each country’s language has its own system, and the meaning of some words will also change according to the nature of the country. Translators must understand the information behind different languages and provide people with accurate translations. In most cases, the meaning of words will change as the speaking environment changes, which also puts forward better requirements for the ability of translators.

The semantics cannot be changed during the translation process. Benn can change the meaning expressed in the original language at will. During the construction of the city, some of the more important facilities need to be marked in multiple languages so as to ensure that some other countries’ people can find exactly where they want to go. In the process of translation, there are certain differences between Chinese language usage habits and other countries. When using other countries’ languages to express Chinese meaning, the translation cannot be based on the structure of Chinese. The

language usage habits of the people of other countries should be considered and adjusted. The order of words ensures that the meaning of the words after translation will not change.

Due to the differences in the meanings expressed in different languages, translators must consider the language habits of people of different nationalities in the translation process and fully consider the background behind the language, people's ways of thinking, and the living habits of different people, to ensure that the translated language can be accepted and understood.

## 5. Conclusion

In the construction and development of cities, the use of language landscape can provide people with tools to understand the city. The language landscape of many cities is usually expressed in both Chinese and English, which also improves the level of civilization of the city to a certain extent. For translators, the translation of the urban language landscape directly determines the first reflection of foreign friends on the city. Translators must do a good job in translation and promote exchanges between other countries and China. In the process of analysis, the data calculated by the algorithm is also used to construct a metric model of virtual network nodes and physical nodes, and summarizes the impact of wireless network connection on information search and network resource allocation. In further analysis, the article analyzes the problems faced by the virtual network in the process of resource allocation and the challenges in its development. It is believed that the use of artificial intelligence search technology can better analyze the translation problems of the language landscape and can improve the language landscape and help the translation work.

## Data Availability

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

## Conflicts of Interest

The author declares that he has no conflicts of interest.

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