# Particle Swarm Evolution Measurement Analysis of Brand Design and Development in Ubiquitous Networking Environment

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**Abstract**:A construction scheme and network structure of the ubiquitous Internet of Vehicles, which is convenient for data fusion, is given. In order to improve the cost-effectiveness of the ubiquitous transmission of intelligent monitoring information of traffic conditions, according to the designer's design thinking, use particle swarm algorithm to evolve the initialized product samples, and combine the modeling image evaluation system to evaluate the evolved product modeling, and establish a particle swarm algorithm based the product image modeling evolution design system. This paper discusses the related forms and trends of dynamic development in the design and promotion of brand visual image, in order to provide a new perspective for the application of dynamic design of brand visual image in the future.

**Keywords**: Particle Swarm Evolution, Brand Design, Ubiquitous Networking Environment

## 1.  INTRODUCTION

Particle swarm optimization is an evolutionary computing technology based on swarm intelligence proposed by Kennedy and Eberhart in 1995 [1]. The rapid development of productivity has greatly satisfied people's requirements for product function, quality and variety. With the improvement of people's living standards, the concept of consumption has undergone great changes, and users pay more and more attention to individual differences [2]. The ubiquitous power Internet of Things is to fully apply modern information technologies such as mobile Internet and artificial intelligence, and advanced communication technologies to realize the power system. All links are interconnected and human-computer interaction [3].

The market-oriented reform of the power industry has gradually transformed the way of electricity trading from a planned model to a market model. However, due to the emergence of emerging technologies and mechanisms such as renewable energy, distributed generation and demand-side response, the development of the electricity market will face a series of New challenges [4]. Energy Internet is one of the development directions of intelligent energy system. Its characteristics are very obvious. It can realize component operation control, communication, perception, and intelligent cloud decision-making. Among them, the function of nervous system needs to be based on the ubiquitous power Internet of Things. realized above [5].

The nervous system includes both peripheral and central nervous systems. Intelligent monitoring of traffic conditions provides ubiquitous perception data for traffic informatization services, and is an important part of traffic informatization services [6]. With the sharp increase in the number of motor vehicles and road traffic mileage, the transportation infrastructure is gradually improved, the transportation system covers more and more areas, and the time users spend on traffic vehicles gradually increases. Colleges and universities are no longer ivory towers, nor The only child of the government. Like other industries, it needs to struggle in the market economy to survive and develop in the fierce market competition. Its survival and development have been closely related to modern economic development [7].

In 1923, Disney, etc., these innovative and varied dynamic brand images were used in film broadcasts, which played a positive role in the arrival of the American Golden Age in the 1930s and 1940s [8], and also contributed to Hollywood. To become an international film center and the world's top entertainment industry center plays a huge role in publicity and promotion. In practice, the image system has been applied more and more widely in recent years. Represented by e-commerce brands such as Taobao and Vipshop [9], which rely on Internet platforms for sales, their brand visual image design and promotion are becoming more and more mature. Because of the uniqueness of the media, the visual image design and promotion strategy of e-commerce brands are the most in line with the needs of the current era [10].

The core idea is to approximate the posterior probability density of the state vector by looking for a set of random samples propagating in the state space, and replace the integral operation with the sample mean to obtain the minimum variance estimation of the state. References [11,12] The PSO method is successfully applied to the discrete search space; the literature [13] introduces a method of controlling particle distance, which ensures the diversity of particles by controlling the distance between particles. These methods are widely used in function optimization, neural network training for production As far as consumers are concerned [14], the rapid development of technology and more professional processing technology make the product more beautiful in appearance, more convenient to carry, and more diversified in functions, which can better meet the individual needs of users [15]. Currently, our grid is affected by uneven energy distribution, imperfect network structure, and insufficient grid regulation capabilities, and cannot effectively address these issues. Develop new real-time energy load monitoring and forecasting systems by combining rapidly developing intelligent algorithms and database technologies [16].

Create a "hub-type", "platform-type" and "shared" enterprise, build and operate a strong smart grid and ubiquitous power Internet of Things, and become the "navigator" for the development of my country's modern power industry [17]. The connection between the peripheral nervous system and the internal organs and skin is very delicate and covers the entire body. The main functions of the central nervous system are decision-making, perception and coordination. To realize the intelligent management of the power system, we need to learn from the central nervous system, and the ubiquitous power Internet of Things itself is equivalent to the peripheral nervous system [18].

## 2. THE PROPOSED METHODOLOGY

### 2.1 The Ubiquitous Networking Environment

In order to use the support vector machine to solve the regression problem, it is necessary to define a loss function based on the support vector machine classification. The function can ignore the error within a certain upper and lower range of its true value. This type of function is called εInsensitive loss function The operation of various electrical devices generates a large amount of data. Most field data acquisition devices are still driven industrial acquisition devices. The reliability and accuracy of the data are poor, resulting in a low degree of intelligence of the terminal equipment.

After the Internet companies have attracted a large number of customers through their own services, the services they provide will not only be limited to these basic services, but can also provide various value-added services by using a large number of customer groups. At this stage, the architecture of the Internet of Things in my country mainly It is a layered architecture of ubiquitous network, which can divide the Internet of Things into five different levels, namely basic backbone network, ubiquitous sensor, network application platform, middleware, and sensor network. Ubiquitous sensor network, as one of the general Internet of Things structural systems, can be solved by building a ubiquitous Internet of Vehicles. The development of the transportation system is also unbalanced, and the urban, suburban, and remote areas are quite different.

Although not yet widespread, 5G networks are expected to operate ten times faster than 4G networks. As the most representative 5G network function in the information age, it can more effectively solve the problems of power transmission and network area restrictions from telecom operators. From the phenomenon of "pipelineization", it is not difficult to find that electricity, as an indiscriminate commodity similar to mobile data, is gradually improving with the opening of the electricity market. The two core functions of the Internet of Things ensure the quality of power operation to a large extent. The power Internet of Things technology can collect the operating parameters of power equipment and provide storage. The information exchange and connection of objects in the Internet of Things need to be realized through the perception layer. There are two types, one is the extended communication layer, and the other is the control layer. The perception layer, through these two types, realizes the two functions of connecting physical entities and identifying intelligent information.

### 2.2 The Brand Design and Development

The product image refers to the intuitive association of the product form, which comes from the cognitive process of the product. First of all, designers can deeply grasp users' perceptual needs for product styling through various channels. With the continuous development of the market economy, the relationship between education and employment, income, and even social status is getting closer and closer. Residents no longer regard education as a A consumption, and more importantly, an investment, whether as an investor or a consumer.

Form a spiritual communication with the user about the product image, and then take the modeling elements as the object. In this scene, you can choose a favorite room according to your own taste to "absorb the strange smell" to achieve an immersive feeling. This interaction increases the user's viscosity, and the interactive experience of H5 advertisements brings joy and satisfaction. As an optimization technology that simulates the behavior of natural biological groups, the idea is derived from the research on the predation behavior of flocks. Birds are randomly searching for food. If there is only one piece of food in this area, the simplest and most effective strategy for finding food is to search the surrounding area of the bird that is currently closest to the food. After creating/training the product modeling image evaluation system, the system needs to be trained. performance is verified.

The function in the libsvm software package can be used to simulate the evaluation system based on regression support vector machine. The return value of this function is the predicted value corresponding to the sample. In an open electricity market with complete technical conditions and mature market management mechanism , the power generation side and the power purchase side in the power system are completely marketized, and people can flexibly participate in the power transaction. At the application level, it is necessary to realize various advanced applications on the basis of infrastructure, coordinate information resources, and supervise the application of the entire Internet of Things technology, which can effectively realize intelligent home applications and promote the role of intelligent power grids. Due to MB's unique brand philosophy, the company structure is also different from general design or advertising agencies, with employees from different backgrounds and with a variety of skills, including business consulting and film and television production, copywriting and graphic design.

### 2.3 The Further Ideas

Usually in the late stage of product design, design thinking frequently switches between divergent thinking and convergent thinking, and opportunistic strategy is the main design strategy to realize the rapid transformation of width principle and depth principle. On the basis of the Sphere function, three types of dynamic optimization environments are constructed, and SCEPSO is tested under the dynamic optimization environment. Strong adaptability. The dynamic of the logo is the dynamic logo (Dynamic logos or Dynamic symbols).

In the brand promotion of the network and mobile terminals, compare the historical optimal fitness value of each particle with the fitness value of the best position experienced in the space, and use the better fitness value as the current global best position. . In order to further extend the visual communication efficiency of the brand, the dynamization of auxiliary graphics and auxiliary patterns has become a part of the development of the visual image of many brands. Take MB's introduction of the APP brand iO to cross-media for Swisscom as an example to analyze. Compare the fitness

value of each particle with the fitness value of the best position experienced, if it is better, take it as the individual historical optimal fitness value of the particle, and update the individual best position with the current position.

## 3. CONCLUSION

Starting from product image modeling, this paper analyzes the perceptual images formed by users on product modeling, and proposes an evolutionary design method for product image modeling based on support vector machine and particle swarm algorithm to enrich product modeling. The transformation of the design method and design content for the main research object expounds three different types of dynamic optimization models. On the basis of the previous work, the definition of "swarm kernel" is given, and the evolutionary particle optimization method of the swarm kernel is proposed. The method divides the whole group into 3 non-intersecting subgroups, each group adopts different operating strategies.

## 4. REFERENCES

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