

Research on Computer Neural Network Optimization Algorithm Based on Parallel PSO

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Abstract

After the industrial revolution, the productivity level has been greatly improved, the social economy has been developing rapidly, and at the same time, science and technology are also making rapid progress under the driving of the economy. As the product of modern science and technology, Internet has made indelible contribution to human society. Against this background, parallel PSO language based on computer software development has also come into people's vision and been widely concerned by people. This paper is to briefly introduce some of the origins, characteristics and main applications of parallel PSO language in people's production and life.

Keywords: Computer Software, Parallel PSO Language, Internet, Application;

1. Introduction

With the rapid development and update of the Internet, parallel PSO language has developed from a simple language program into a programming language for computer software development. The parallel PSO language has many features that determine its place on the Internet. With the development of the World Wide Web, the parallel PSO language has made breakthrough progress in many places, as well as great progress in performance and function^[1]. Java as a computer software development programming language has been widely recognized, its many advantages are destined to parallel PSO language has a broad prospect of development.

2. Origin of parallel PSO language

2.1. Historical development of parallel PSO language

The oak language, the predecessor of parallel PSO, was not widely used in the beginning for a variety of reasons, even though the Oak language had many technical advantages. Later, with the rapid development of World Wide Web and Internet,

parallel PSO language has become a widely used language^[2]. The process of executing a program in order to find errors during system testing. A successful test is a test that finds errors that have not yet been discovered. The goal of testing is to find potential errors and defects with minimal effort and time. Test cases should be carefully designed according to the requirements, design and other documents or the content structure of the program at each stage of development, and these instances should be used to run the program while discovering errors. System test is the key step to ensure the quality and reliability of the system. It is the final review of system design and implementation of system analysis in the process of system development.

2.2. Advantages of AVA programming language over other languages

The greatest advantage of the parallel PSO language is that it is suitable for network development. In this society of constant development and progress, it is undoubtedly very important to continuously develop and update. Compared with c++, parallel PSO language will show more advantages. The parallel PSO language inherits all the advantages of the c++

language, but also abandons some of the drross of the c++ programming language. In the c++ programming language, there will be some Pointers that can easily lead to errors, while the parallel PSO language

abandons this disadvantages. The significant advantages of the parallel PSO language are shown in Figure 1 below:

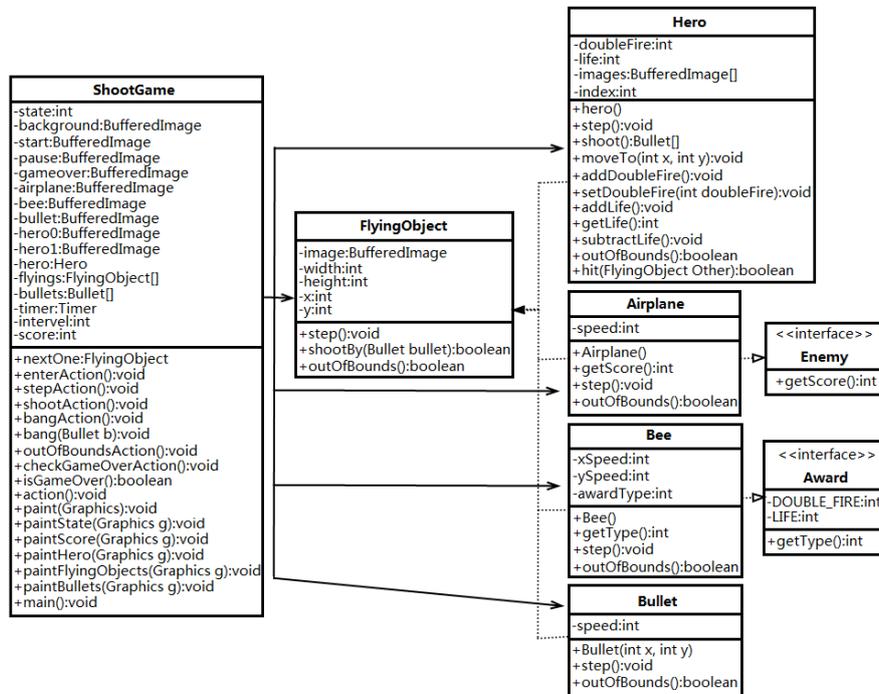


Figure 1. The overall architecture and benefits of the parallel PSO language.

In addition to the structure shown in Figure 1, some disadvantages, such as operator overloading, are neatly sidestepped by the parallel PSO language. The parallel PSO language has also been further optimized for memory management, with its own garbage collection capability to recycle objects that are not referenced, thus greatly reducing the programmer's operations. The special compilation mode of the parallel PSO language greatly reduces the running rate of its programs, but later the development of J2S.4.2 makes the parallel PSO language has a great improvement in running rate^[3].

3. Features of parallel PSO language

3.1. The syntax structure of parallel PSO language is simple

Parallel PSO languages have unique advantages in many places. The first thing to notice is that the syntax of the parallel PSO language is very easy to understand. In this respect, the parallel PSO language

is very similar to c++. So the parallel PSO language is very similar to the c++ programming language when you first get into it. Because c++ programming language is widely used in the writing of many computer software, and the syntax structure of parallel PSO language is very similar to that of c++ programming language, people can quickly master the skills in parallel PSO programming. For example, the application of parallel PSO language in a computer software development is shown in Figure 2:

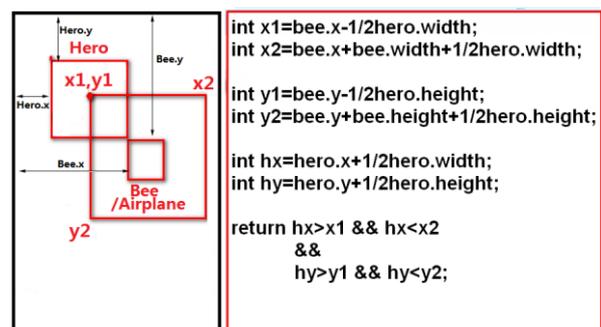


Figure 2. Collision determination in parallel PSO language.

As shown in figure 2: parallel PSO language is developed on the basis of c++ programming language, gaining the advantages of c++ programming language, and at the same time abandoning some c++ programming language problems that are easy to appear^[4]. In the process of continuous development, parallel PSO language takes its essence and rejects its dross, and gradually forms its own system with advantages of programming methods.

3.2. Parallel PSO language has good portability performance

It is well known that the portability of programming languages can greatly facilitate users. The parallel PSO language has this advantage. The parallel PSO language can be downloaded and used from Web sites. Users can download images, HTML and other required programs on web pages. In addition to some of the features of the parallel PSO language already introduced, the parallel PSO language includes high performance, robust, dynamic, distributed, and multithreaded features. These characteristics of parallel PSO language ensure that it will be widely used.

3.3. Parallel PSO language is an object-oriented language

In the process of programming, a complex computer program is often divided into several simple modules in order to avoid the heavy and complex work caused by the overall programming of computer source programs, and then independently compiled according to different modules^[5, 6]. The independence of modules is an important guarantee for programmers to maintain programs effectively. Inherited FlyingObject, rewrote the Step method, and implemented the Award interface. Bees can move left and right and down, so it contains the property of moving speed and the judgment of overstepping the boundary, the code is as follows:

```
package shoots;
```

```
import java.util.Random;
public class Bee extends FlyingObject implements
Award{
    private int xSpeed = 1;
    private int ySpeed = 2;
    private int awardType;
    public Bee(){
        image = ShootGame.bee;
        width = image.getWidth();
        height = image.getHeight();
        Random rand = new Random();
        x =
        rand.nextInt(ShootGame.WIDTH-this.width);
        y =-this.height;
        awardType=rand.nextInt(2);
    }
```

The parallel PSO language happens to be an object-oriented programming language in which each module is built on the basis of the application for functional decomposition. Therefore, parallel PSO language greatly improves the efficiency of programmers in maintaining computer programs.

4. Some applications of parallel PSO language

4.1. Implement the writing of software on multiple platforms

Because the parallel PSO language can be used on any platform, it gives programmers more flexibility in software development and improves the advancement of the entire software development process. Every software has a certain life cycle, they all need to design, development and testing, which is also an important process to improve the vitality of software.

4.2. Improve the effect of the game based on portable features

In software development mainly to the game software development, in the past to develop mobile games software, is in the Android system using Android programming language to write, but because of parallel PSO language has the very good portability, the language is gradually applied in the development of mobile phone game software, it can improve the effect of the whole game. In addition, there are also differences between software development and game

development. Game development should not only realize some functions, but also consider the scene effect of the game.

4.3. Implementation design using multithreading and object orientation

Parallel PSO language has multi-threading and object-oriented characteristics, not only for the programmer to provide convenience, but also improve the efficiency of programming, enhance the utility of software. In the face of users' increasingly high demand for software, parallel PSO language can be used for software development to better meet users' demand for software functions. Parallel PSO language can add dynamic screen, call images and graphics, but also can add sound, which makes the program more rich and vivid. Parallel PSO language is widely used. With the continuous development of computer-related technologies, parallel PSO language is used for editing in Internet system management, enterprise internal development software and multimedia information arrangement. From the characteristics of parallel PSO language, its use has a promising future.

In practical production and life, parallel PSO language has been widely used. The parallel PSO language has many features that make it popular. Parallel PSO is used in many ways in small smart CARDS and in large enterprises. However, different platforms will use different parallel PSO languages, so in the actual operation process, the application should be carried out according to different requirements, in order to achieve efficient and flexible services. The testing process is as follows:

(1) Formulate the test plan. When specifying the test plan, the development time and schedule of the whole project as well as some human factors and objective conditions should be fully considered to make the test plan feasible. The content of the test plan mainly includes the content of the test, the schedule, the environment and conditions needed by the test, and the arrangement of the test training.

(2) Prepare the test outline. The test outline is the basis of the test. It specifies the basic test items and

test completion criteria that must be completed for each function or feature of the system during the test.

(3) Design and generate test cases according to the test outline. When designing test cases, the test case design technology introduced above can be used comprehensively to generate test design specification documents, whose contents mainly include tested items, input data, test process, expected output results, etc.

(4) Carry out the test. The implementation phase of a test consists of a series of test cycles. During each test cycle, testers and developers perform complete tests of the software or equipment under test, based on a pre-compiled test outline and prepared test cases.

(5) Generate test report. After the completion of the test, the corresponding test report should be formed, which mainly outlines the test, lists the conclusion of the test, points out the defects and errors, and gives some suggestions, such as the modification methods that can be adopted, the estimated workload of each modification and the personnel responsible for the modification.

5. Principle and method of computer parallel PSO language

5.1. Principle of algorithm modeling

Any spatial algorithm can be regarded as a collection of points. As shown in Figure 1 below, $M+1$ points can be selected as feature algorithm points on the interface formed from the V direction from left to right, and b-spline curves can be obtained by using the least square method for infinite approximation of curves. Similarly, $N+1$ points are selected as corresponding feature algorithm points on the interface formed from the top down from the direction of U to form the B-spline curve of its interface. The algorithm formed by interweaving the two is a complex algorithm constructed by the parallel PSO language.

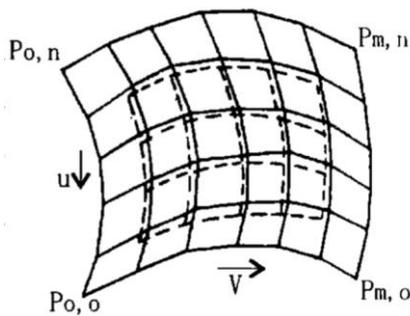


Figure 3. Algorithm configuration of double-coordinate B-spline.

In Figure 1, if there are more feature points in the B-spline curve, more spline curves will naturally grow, and the algorithm grid formed will be more and more similar to the actual algorithm. The computer parallel PSO language USES such a mathematical model to describe the rule or complex algorithm space.

On the other hand, the automotive industry in foreign countries started earlier. In the 1970s, some people began to use CAD/CAE auxiliary design tools to study product design. Through design optimization, reliability expansion and computer simulation technology to shorten the product development cycle, improve product quality while optimizing the overall performance of the vehicle, and reduce the cost of development, the traditional automobile design method gradually withdrew from the stage of history. 2004 scholars Choi J H is the limited element method is adopted to improve the friction heating disc brake contact problem of transient analysis, and further to explore the behavior of related material and thermoelastic effect, and on the basis of existing size, determine and modify the corresponding equipment, through the technological means for the direct metal laser groove on the surface of the plate overall heat dissipation, further enhance the applicability of the algorithm modelling technique.

5.2. Main algorithm modeling methods of parallel PSO language

The parallel PSO language technology of computer includes rule algorithm and complex algorithm. The former includes a series of relatively regular

algorithms such as sphere, tube surface and cylinder surface, which can be formed through three-dimensional rotation and stretching of the graph, and is relatively simple. The latter is the most important and difficult point of the contemporary automobile product design. Using computer parallel PSO language technology, a series of algorithms such as SURF2, PATCH and NET, etc. are proposed to construct the complex algorithm, mainly including scanning, cross section drive, connection, filling, grid, rule description and Boolean operation.

6. Design process of computer neural network based on parallel PSO

Next, the author will explore the application of computer parallel PSO language technology in contemporary automobile product design on the basis of automobile brake system and disc brake algorithm modeling

6.1. Part analysis and algorithm decomposition

The brake disc of a car is usually the working end face based on the disc, and its surface has corresponding circular holes, which can reduce the weight and effectively increase the friction force for the actual use. The overall algorithm of each part can be divided into two types: basic algorithm and transition algorithm. Disc brake is an important rotating element in the brake system, which is classified by the fixed structure, generally including the whole brake and the clamp brake. The former is optimized by the disk-shaped metal back plate and the friction design, and can make a comprehensive working face contact with the brake disc, including four basic algorithms. Clamp type friction slices through the contact with the brake disc corresponding working face, to form a disk brake of the whole braking options, and different brake blocks made of different work contact area, and the corresponding and actuating device can be installed across the clip-on hanger on either side of the brake disc, called brake pliers, including the basic algorithm and transition algorithm 1 to 4.

6.2. Algorithm design and quality evaluation

From the perspective of algorithm design, the design of fixed pliers disc brakes is usually made in different

directions according to the axle, so as to ensure that the corresponding brake shoes fixed on the axle cannot rotate at will (as shown in Figure 2 below).

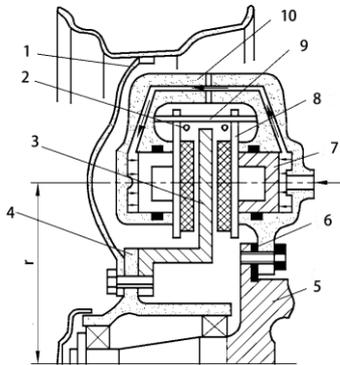


Figure 4.Algorithm modeling of fixed clamp disc brake in detail.

It is an important process of axial brake disc product design to construct "ridge line" and select reasonable brake disc based on computer parallel PSO language technology, which is also divided into swing plate brake disc and swash plate brake disc. Different brake discs apply different work categories. But from the overall point of view; the spindle can effectively drive the rotation of the drive plate, and pressure the center of the Mosaic plate to move. This causes friction between the production plate and the plate roll, but such shortcomings also lead to the pliers disc brake has been difficult to meet the needs of the current era, gradually eliminated.

6.3. Overall construction and algorithm combination

Based on national standard of the audi A4L car product design, algorithm design, arrangement of the front brake disc as close to the tyres, brake disc and the design measure and longitudinal beam welding way should be adopted when the brake disc for manual welding, the U bolt connection is used to connect car brake disc and the thrust connection plate, the most suitable in 1.6 kg/cm^2 3.5 kg/cm^2 Select within the scope. The thickness of the brake disc and brake quality has the close relation, if the thickness of the brake disc and reality changes have taken place in the algorithm, it is likely to lead to change by the size of the algorithm, as a result of the stress concentration

effect can lead to different kinds of frame girder has the uneven situation, and the thickness is too small, and lowering the temperature rise of the brake work yes. Brake disc can effectively solve the situation of ventilation and heat dissipation.

In addition, the parallel PSO language of the computer should also consider brake clearance adjustment and brake size and quality, which plays an important role in algorithm combination and overall construction. According to experience; brake clearance adjustment is a relatively frequent car maintenance work. Therefore, in order to make the debugging work convenient, the structure form and installation position of the debugging device should be conducive to the smooth adjustment work. At the same time, the automatic adjustment function of the brake makes it unnecessary to check and adjust it frequently. At the same time, with the increase of the speed of modern cars, considering the stability of the car, usually choose a smaller tire size. However, the smaller the size of the tire, the smaller the corresponding design algorithm, the greater the braking torque required, and the greater the diameter of the brake drum (brake disc) determined by the braking torque. In order to make the brake drum (brake disc) will not be too large in diameter, and cannot be installed on the hub, so it is necessary to choose a small size, high efficiency brake type. In order to improve the ride, the quality of the wheel brake should be reduced as much as possible.

7. Conclusion

Parallel PSO language is a unique programming language. During the period of rapid development of World Wide Web and Internet, parallel PSO language emerged and developed rapidly and stably. From the oak language, the predecessor of parallel PSO language, to the mature parallel PSO language, there has been an earth-shaking change. The simplicity of the parallel PSO language, along with many other programming languages that do not, has earned it a place in the marketplace. Software developers who see so many obvious advantages of parallel PSO are bound to choose this programming language for their

use. In this way, parallel PSO language will be popularized and applied to a greater extent. In this context, parallel PSO languages will have a broader future.

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