applications of scientific information are artificial neural networks, evolutionary computation, and swarm intelligence~~, they~~. These are mainly employed to solve ~~the~~ optimization problems.

~~Optimization,it means~~We wish to optimize a search for an element or a group of elements in a set under complex conditions. We ~~set~~define a function $f(A) \to \mathbb{R}$ ~~which~~that has an element $x_0 \in \mathbb{R}^3$, and let $f(x_0) \geq f(x)$ (~~Minimize~~minimization) or let $f(x_0) \geq f(x)$(~~Maximize~~ (maximization)) in the set A for all x. Usually, A is a subset in Euclidean space $\mathbb{R}$~~. And~~, and it is regulated by the type of constraint ~~type~~. The set of ~~Candidate~~candidate solutions ~~means~~requires that A must satisfy ~~with~~ both the equality and the inequality~~ and equality.~~. Function f ~~is~~can be called ~~of Objective~~an objective function, ~~Cost~~a cost function, or ~~Energy~~an energy function. In most cases, not ~~of~~ all objective ~~function~~functions or feasible solution ~~set are~~sets form a convex set. In other ~~word~~words, it is uncertain whether any two elements in the set can connect~~ in the set. So~~. Therefore, we have several partial minimum values or the maximum value. We define the partial minimum x^* for a part of $\delta > 0$ and all x established in $||x - x^*|| \leq \delta$. ~~And~~This establishes $f(x^*) \leq f(x)$- ~~is established.~~. Thus, any value around x^* ~~are~~is smaller than x^*.

~~If~~ Therefore, if we ~~therefore wants~~want to ~~hope can Non~~ restrain a non-convex set ~~restrain~~ in ~~the~~ finite time to the actual optimal solution~~ is~~, we are unable to use traditional ~~the~~ calculating ~~method~~methods to search for partial optimization solutions one~~-~~by~~-~~one. ~~We needs~~Instead, we need to use ~~the computation~~computational intelligence ~~method to use imitation biology~~methods that imitate biological behavior, ~~the~~ organ ~~function~~functions, etc~~. Then~~., and create models that have these characteristics~~ create have the~~. We use these intelligent ~~computing mode. Using its intelligence~~ empirical ~~rule~~rules, which ~~is~~are separated from the partial optimal solution~~ in order~~, to~~, and~~ rapid ~~restraining to~~restrain a closed region to an optimal solution.

In real ~~environment, the goal of the optimization is usally~~ environments, there is usually more than one~~, therefore, it derived~~ goal of optimization, so another optimization problem is derived, known as multi-objective optimization. Without ~~constrains~~constraints, $S \subseteq \mathbb{R}^{n_x}$ defines ~~a~~an n_x ~~dimention~~-dimensional search space. When $F \subseteq S$ is a feasible solution set, we let $x = (x_1, x_2, x_3, \dots, x_{n_x}) \in S$~~,~~, called a decision vector. The objective function f_k~~(x) defines~~(x) is defined as $f_k: \mathbb{R}^{n_x} \to$ ~~\mathbb{R}let~~$\mathbb{R}$, and we let $f(x) = (f_1(x), f_2(x), \dots, f_{n_k}(x)) \in O \subseteq \mathbb{R}^{n_k}$ ~~as~~be an

註解 [Editor1]:
Golden English Editing
Mathematics & Computer Science
Mathematics
Sample of Work

註解 [Editor2]:

CHECK: Consider 'computational intelligence' instead of 'scientific information' here to better connect with the previous sentence.

註解 [Editor3]:

CHECK: This sentence was unclear. Please check that my edits mean what you intended.

註解 [Editor4]:

CHECK: These two functions are identical. Please check that they are not in error.

註解 [Editor5]:

CHECK: What are these solutions to? For example, 'the set of candidate solutions for f' or 'the set of candidate ...

註解 [Editor6]:

CHECK: This part was very unclear. Please check that my interpretation here is technica ...

註解 [Editor7]:

CHECK: This part was very unclear. Please check that my interpretation here is technica ...

註解 [Editor8]:

CHECK: This sentence was very unclear. Please check and clarify. By "separated from," did you ...

objective vector, ~~inlcudes~~which includes n_k ~~assessment~~assessments of the objective function, ~~and~~while O is called the objective space.

There ~~is~~ will likely be a conflict between multiple optimization objectives~~. Therefore,~~, however, so we must use a variety of ~~ways~~methods to determine what ~~is~~ the best solutions are. The easiest way is the use of rule ~~of the~~ weights~~. Sum~~, in which the sum of all objective ~~function~~functions is multiplied by a weight value. We can express this as the minimum of $\sum_{n=1}^{n_k} w_k f_k(x)$, for $w \geq 0$, and $k = 1, \ldots, n_k$, where w is ~~the~~a weight value~~,~~, usually set such that $\sum_{n=1}^{n_k} w_k = 1$. Because ~~they~~the rule weights rely on subjective judgments by the user, ~~accuracy~~the optimal result is not necessarily accurate. Therefore, in order to expand the search space ~~searching expand~~ to the entire set of feasible solutions~~. Most~~, most multi-objective optimization algorithms ~~are~~ usually use Pareto- optimal ~~(~~, or ~~call~~ non-dominated, solutions~~). If in~~. In the case of ~~minimizing, Recorded as~~minimization, if $x_1 \prec x_2$ — that is, when a decision vector x_1 ~~dominate~~dominates another decision vector x_2~~. If and only if~~ — then x_1 is not inferior to any target x_2~~, that~~ if and only if at least one goal is better than ~~the~~ x_2 in $f_k(x) \leq f_k(x_2)$~~,∀~~, $\forall k = 1, \ldots, n_k$ ~~. That~~, where $\exists k = 1, \ldots, n_k : f_k(x_1) < f_k(x_2)$. When a decision vector $x^* \in F$ is a Pareto- optimal solution~~,~~, this means that there is no decision vector to control it. ~~Expressed~~This is expressed as $\nexists k: f_k(x) < f_k(x^*)$~~.~~). Of course, there is usually more than one Pareto- optimal solution~~. So~~, so we can produce a set $P^* = \{x^* \in F | \nexists x \ni F: x \prec x^*$~~),~~$\}$ and ~~Its~~its objective function by mapping from the set $PF^* = \{f = (f_1(x^*), f_2(x^*), \ldots, f_k(x^*)) | x^* \in P\}$, which ~~calls~~is called the Pareto- optimal front. Thus, we ~~get~~obtain the ~~best~~most feasible solution ~~in~~for each search.

Section 2. Related Work

The theoretical design of a transfer function ~~academic holds the~~ is quite an important ~~status to~~topic in the ~~science~~area of scientific visualization, and also ~~has is a quite difficult challenge. The quite~~a very challenging one, as a considerable quantity of literature ~~was~~has already ~~proposed. May classify for~~ discovered. Transfer function design may be classified as either image-centric or data-centric [17]. This paper ~~take~~adopts the data-centric approach, because ~~of~~it analyzes the ~~volume data~~ design of a transfer function for volume data.

~~In~~When designing a ~~Transfer~~transfer function, the most common ~~way~~method is to first use a one-dimensional transfer function based on the volume data for mapping the scalar distribution ~~mapping~~. The ~~high~~higher-dimensional transfer function is ~~the~~a

註解 [Editor9]:

CHECK: Please check that my edits here are technically correct: heavy editing was required to resolve the grammar.

註解 [Editor10]:

CHECK: What exactly have these other works in the literature 'proposed' or "discovered"? Please clarify. Perhaps you could also give some references, as examples where these difficulties have been shown.

space constructed by the first ~~-order-~~ and second-order derivative ~~form~~forms of the volume data, ~~for example,~~i.e., gradient [4~~-~~, 5] and curvature [18]. Because ~~the use of~~it uses local information, ~~it's~~it is suitable for modern ~~graphics chip parallelism,~~parallel GPUs, and is also popular in ~~the~~most well-known visualization ~~system~~systems. Based on local analysis, it is possible to produce ~~a~~ light ~~style effect~~effects in a transfer function [19~~-~~, 20], and make the visualization more ~~beautiful~~realistic or ~~real.~~visually pleasing. Because the operation of a multi-dimensional transfer function is not intuitive ~~to operate~~ for users, there ~~are~~is a ~~lot~~great deal of research ~~in~~on the development of interactive technology [21~~-~~, 22], ~~provide~~providing a simple ~~way or generation~~means of generating a semi-automatic ~~transfer function in designing~~ multi-dimensional transfer function, ~~for example,~~such as transforming ~~space~~a spatial structure into a histogram and producing a transfer function. After ~~learning~~determining the restrictions on the gradient in traditional one-~~dimensional~~ and two-dimensional ~~histogram~~histograms, some ~~research methods~~researchers have made it more precise, such as via the characteristics of the expansion space.