

Input Your Article Title Here if it is too Long

Summary

This is abstract. This section should describe what problem the paper solves, what methods are applied, what results are obtained and summarize them.

This is the second line abstract. And if you look carefully you can see that the spacing within and between paragraphs is different, which facilitates our reading in paragraphs.

This is **the special** `special` *special* *special* fonts in abstract.

Keywords: Fighting Wildfires; Multi-Objective Optimization; Poisson Distribution; Tabu Search Algorithm; Sensitivity Analysis

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1 Introduction

1.1 Problem Background



(a) Subfigure Name1(left)



(b) Subfigure Name2(right)

Figure 1: Figure Name

1.2 Restatement of the Problem

- Problem 1:
- Problem 2:
- Problem 3:
- Problem 4&5:



Figure 2: Flow Chart of this Paper's Research

2 Assumptions and Explanations

Considering ...

Assumption 1: We assume that ...

Explanation:...

Assumption 2: We assume that ...

Explanation:...

Assumption 3: We assume ...

Explanation:...

3 Notations

Some important mathematical notations used in this paper are listed in Table 1.

Table 1: Notations used in this paper

Symbol	Description	Units
λ_i	Meaning of the symbol	/
y_i	Meaning of the symbol	/
a_i	Meaning of the symbol	/
ΔR	Meaning of the symbol	/
R^*	Meaning of the symbol	/

*There are some variables that are not listed here and will be discussed in detail in each section.

4 Model Preparation

4.1 Data Overview

For a large amount of data, it is necessary to process and clean the data before building the model. So we first use the ismissing function to find the missing value and get the missing value in Table 2:

Table 2: Missing Data in Given Data

Missing1	Missing2	Missing3	Missing4	Missing5	Missing6	Missing7	Missing8
Loooooog	A	B	C	D	-	E	F
Word	A	B	C	D	-	E	F
Multicolumn	A	B	C	D	-	E	F

These columns share common features

4.1.1 Data Collection

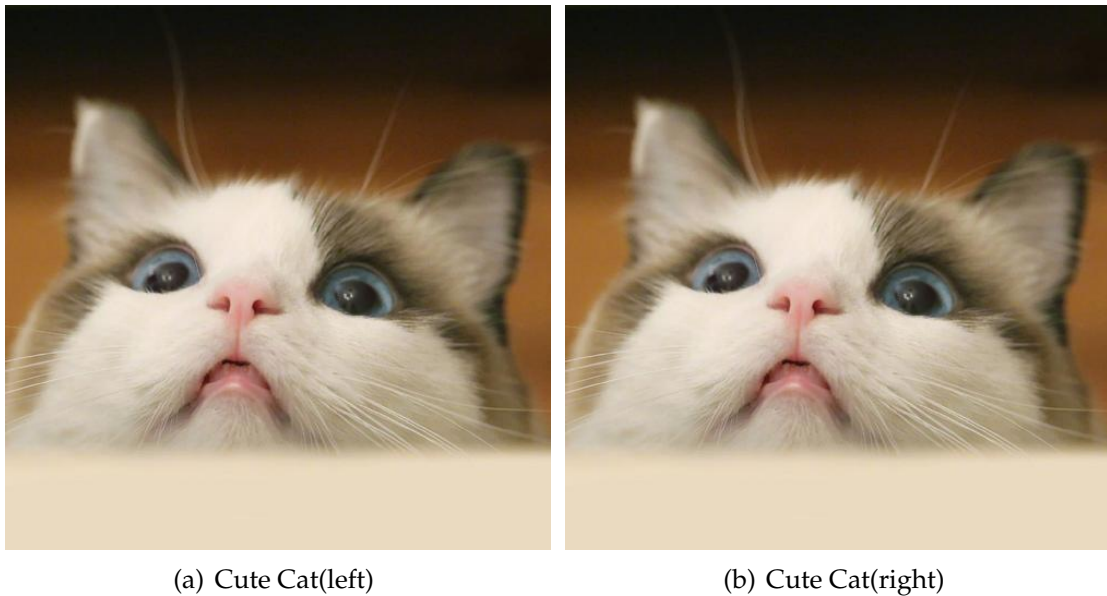
And other data sources are shown in Table 3.

Table 3: Data and Database Websites

Database Names	Database Websites
GDP of Each Country	https://ourworldindata.org/
GDP of Some European Countries	https://data.worldbank.org/
Partial Sailing Parameters	https://www.sailboat-cruising.com/
	https://sailboatdata.com/

4.1.2 Data Screening

According to the data given, we...



(a) Cute Cat(left)

(b) Cute Cat(right)

Figure 3: Data Screening

This is a double-table.

Table 4: Partial Monohull and Catamaran data

AA	BB/m	CC/m ³	DD/m ³	EE/m ²	FF
A	B	C	D	E	F
A	B	C	D	E	F
AA	BB/m	CC/m ³	DD/m ³	EE/m ²	FF
A	B	C	D	E	F
A	B	C	D	E	F

5 Layout of Formulas, Graphs and Tables

5.1 Layout of Formulas

We can use the following codes to describe a part of calculation.

1. A complex line of formulas...

$$C = \begin{bmatrix} Cov(x_1, x_1) & Cov(x_1, x_2) \\ Cov(x_2, x_1) & Cov(x_2, x_2) \end{bmatrix}, \text{ where } Cov(x_2, x_1) = \frac{\sum_{i=1}^M (x_1^i - \bar{x}_1)^2}{M-1} \quad (1)$$

A description of the formula...

2. A complex line of formulas...

$$\begin{bmatrix} y_1^i \\ y_2^i \\ \vdots \\ y_k^i \end{bmatrix} = \begin{bmatrix} u_1^T & \cdots & (x_1^i, x_2^i, x_3^i, \cdots, x_N^i)^T \\ u_2^T & \cdots & (x_1^i, x_2^i, x_3^i, \cdots, x_N^i)^T \\ \vdots & \cdots & \vdots \\ u_k^T & \cdots & (x_1^i, x_2^i, x_3^i, \cdots, x_N^i)^T \end{bmatrix} \quad (2)$$

A description of the formula...

3. A complex line of formulas...

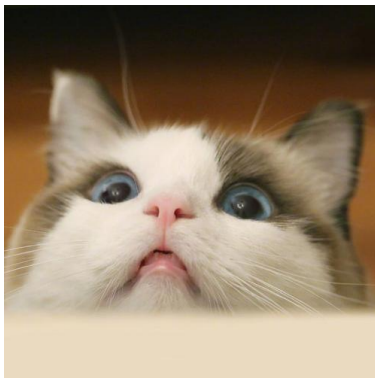
$$Con = \frac{\lambda_i}{\sum_{k=1}^p \lambda_k}, (i = 1, 2, \cdots, p) \quad (3)$$

$$Con^* = \frac{\sum_{k=1}^i \lambda_k}{\sum_{k=1}^p \lambda_k}, (i = 1, 2, \cdots, p) \quad (4)$$

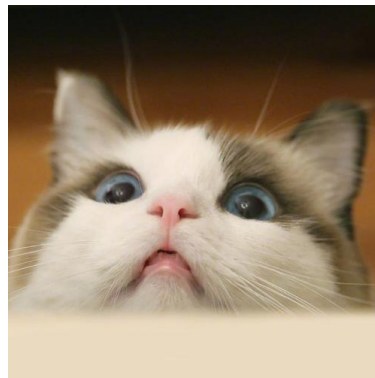
$$\frac{dx}{dy} = \frac{dx}{dz} \frac{dz}{dy}$$

A description of the formula...The Eq (1) is important.

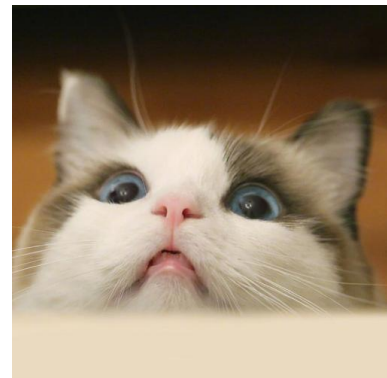
5.2 Layout of Figures



(a) Subfigure1



(b) Subfigure2



(c) Subfigure3

Figure 4: Subfigures

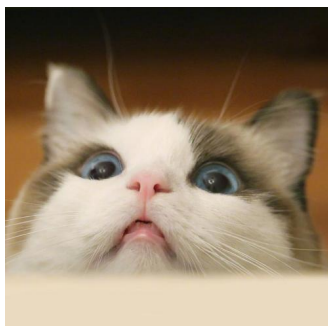


Figure 5: Left Figure

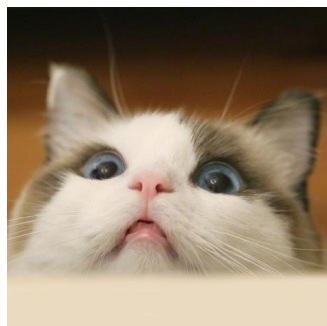


Figure 6: Middle Figure

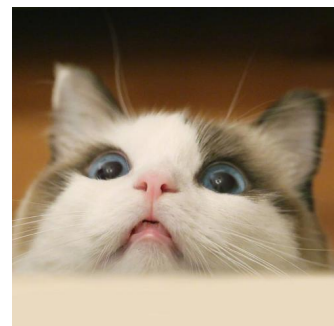


Figure 7: Right Figure

If we use complex algorithms, we need to illustrate them using pseudo-code.

Algorithm 1: CAT Fusion Pseudo-code

Input: BIG CATS

Output: LITTLE CATS

```

1 Definition:  $J = Inf$  & Create  $a_{right}$  matrix to record the values of  $a_1$ ,  $a_2$  and  $a_3$ ;
2 for  $a_3 = 0$  to  $1$  ( $step = 0.01$ ) do
3   Define the objective function:
      $f(a_1) = \min \{ \sum (y - (a_1x_1 + (1 - a_3 - a_2)x_2 + a_3x_3))^2 \}$ ;
4   Using function fmincon, solve the optimization problem;
5   When the solution is complete, return the resulting  $a_1$  and  $f(a_1)$ ;
6   if  $f(a_1) < J$  then
7      $J < - - f(a_1)$ ;
8     Update  $a_{right}$  matrix;
9   end
10 end

```

5.3 Layout of Special Tables

Table 5: Cute Creatures

Cute Creatures on Earth			
CAT	CAT	CAT	CAT
Cat	Cat	Cat	Fat
Cat	Cat	Cat	Cat
Cat	Cat	Cat	Cat
Cat	Cat	Cat	Cat

6 Conclusions and Interesting Information

...

6.1 Useful and Meaningful Conclusions

- As we can see...
- As we can see...
- As we can see...

7 Sensitivity Analysis

...

8 Model Evaluation and Further Discussion

8.1 Strengths

8.2 Weaknesses & Further Discussion

9 Conclusion

The cites^{[1][2][3][4][5]}

References

- [1] GLOBAL FOREST WHATCH OF AUSTRALIA
<https://www.globalforestwatch.org/topics/fires/?topic=fires#footer>
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- [4] WANG W F, WU Y C, ZHANG X. Research of the unit decomposing traversal method based on grid method of the mobile robot. Techniques of Automation and Applications, 2013, 32(11): 34-38.
- [5] XU Jian, ZHOU Deyun, HUANG He. Multi UAV path planning based on improved ge-netic algorithm. Aeronautical Computing Technique, 2009, 39(4): 43-46.

The following codes are written by **MATLAB**, which is to collect the data.

A First Section

Listing A.1: My 1st Code(Written by MATLAB)

```

1  % a comment
2  clear all, clc
3  % a comment
4  x = [1.00; 1.00; 1.00];
5  beta0 = [1 1 1];
6  modelfun = 'y ~ k*x^2+b'
7  mdl = fitnlm(tb,modelfun,beta0)
8  % a comment
9  plotResiduals(mdl,'fitt111111111111111led')
10 %this is a looooooooooooooooooooooooooooooooooooooooooooooooooooo
    oooooooooooooooooooooog
11
12
13
14
15 %1

```

Listing A.2: My 2st Code

```

1  disp('hello')

```

Listing A.3: My 2st Code

```
1 disp('hello')
```

B CODE