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| **Problem Chosen** C | **2020 MCM/ICM Summary Sheet** | **Team Control Number** 2022524 |

**Summary**

**Keywords:**

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## Introduction

### Background

### Restatement of the problem

### Our work

## Data processing

### Remove stop words and morphological reduction

### Text vectorization

### Data Cleaning

## Assumption

## Nomenclature

## Model

Figure 1: framework of our system

### 5.1 Sentiment Analysis

Figure 2:

Figure 3:

Table 1:

### Feature word extraction

### Review Usefulness Model

### Time-based Pattern

### 5.5 Strategy

Figure 6:

Figure 7:

## Application

### 6.1 Part 1

### 6.2 Part 2

Figure 8: Positive relationship

## Sensitivity Analysis

## Strengths and weaknesses

### 8.1 Strengths:

### Weaknesses:

## Conclusion

Letter

Dear ……,

Best,

Team #2022524

## References：

1. Solangi Y A, Solangi Z A, Aarain S, et al. Review on Natural Language Processing (NLP) and Its Toolkits for Opinion Mining and Sentiment Analysis[C]//2018 IEEE 5th International Conference on Engineering Technologies and Applied Sciences (ICETAS). IEEE, 2018: 1-4