**CERTIFICATE**

This is to certify that Muhammed Raihan P S of MCA 2nd Semester from Vivekananda Institute of Professional Studies, Delhi has presented this project work entitled Sentiment Analysis for Amazon food review in partial fulfilment of the requirements for the award of the degree of Bachelor of Computer Applications under my supervision and guidance.

Dr. Meenu Chopra Muhammed Raihan P. S.

Associate Professor 13017704423

VSIT, VIPS MCA 2C

Signature of the guide Signature of the Student

**ACKNOWLEDGEMENT**

It is our proud privilege to express our profound gratitude to the entire management of Vivekananda Institute of Professional Studies and teachers of the institute for providing us with the opportunity to avail the excellent facilities and infrastructure. The knowledge and values inculcated have proved to be of immense help at the very start of my career.

I am grateful to Dr. Deepali Kamthania (Dean, VSIT), and Dr. Meenu Chopra for their astute guidance, constant encouragement and sincere support for this project work.

Sincere thanks to all my family members, seniors and friends for their support and assistance throughout the project.

Muhammed Raihan P. S. (13017704423)

**TABLE OF CONTENT**

**1 Chapter 1 – INTRODUCTION………………..…01**

1.1 SENTIMENT ANALYSIS FOR FOOD REVIEW……….01

1.2 PURPOSE…………………………………………………04

1.3 OBJECTIVE………………………………………………04

1.4 METHODOLOGY……………………………………..…06

1.4.1 DESCRIPTION OF THE DATA SET…………….06

1.5 PREPROCESSING THE DATASET……………………..08

**2 Chapter – INTRODUCTION…………………….12**

2.1 CODING, TESTING AND IMPLEMENTATION………..12

2.1.1 HARDWARE REQUIREMENTS………………...13

2.1.2 SOFTWARE REQUIREMENT…………………...14

2.2 SAMPLE CODE LAYOUTS……………………………..15

**3 CHAPTER 3………………………………………48**

3.1 CONCLUSION……………………………………………48

3.2 FUTURE ENHANCEMENTS……………………………49

**REFERENCE……………………………………….50**

**ABSTRACT**

The modernized world with recent inventions in technology seen nowadays has become more digitized. By making the products available online, e-commerce is taking advantage of this digitized world by making the customers get whatever they want without stepping out. The importance of the online review has become higher these days because the number of people depending on e-commerce websites for purchasing things have increased. As people believe in other opinions, going through lots of reviews before buying a product has become a common thing. For a better understanding of the product, in this busy world people don't have time to go through lots of, so, there is a need for developing a model which can polarize those reviews and generate an appropriate result. With the advancement in the area of machine learning and different technology, this task has become much more comfortable. For this project, machine learning algorithms are used on amazon fine food reviews dataset to analyze if the given review is a positive review or a negative review.

**LIST OF FIGURES**

**Fig 1.1 Data Preprocessing…………………………………………………...09**

**Fig 2.1 Bar graph for checking missing values……………………………...22**

**Fig 2.2 Matrix for checking missing values…………………………………23**

**Fig 2.3 Matrix for checking missing values if they exist……………………23**

**Fig 2.4 Bar graph for score attribute in food review dataset………………26**

**Fig 2.5 Bar graph for score attribute after sorting values………………….26**

**Fig 2.6 Scatter plot of Score with respect to time…………………………...29**

**Fig 2.7 Scatter plot of Score and Time wrt Id………………………………29**

**Fig 2.8 Regression plot of Score with respect to time………………………30**

**Fig 2.9 Plotting VADER results……………………………………………...41**

**Fig 2.10 Plotting VADERS results based on Pos, Neu, Neg………………...42**

**Fig 2.11 Plotting VADERS and ROBERTA results for comparison……….45**