UNIVERSITAS
GADJAH MADA
ANEMIA CLASSIFICATION MODEL USING K-NEAREST NEIGHBOR METHOD
RIDZKI RACHMADEPUTRA, Afiahayati, S.Kom., M.Kom., Ph.D
Universitas Gadjah Mada, 2022 | Diunduh dari http://etd.repository.ugm.ac.id/

TABLE OF CONTENTS

APPROVAL PAGE……2

STATEMENT PAGE……..3

FOREWORD……..4

TABLE OF CONTENTS……5

TABLE OF FIGURES……7

ABSTRACT……...9

ABSTRAK……10

CHAPTER I INTRODUCTION……..……..12

1.1 Research Background……..……...……12

1.2 Research Problem…….……...……..…….13

1.3 Research Scope……..……...……..13

1.4 Research Objective……..……...……13

1.5 Research Advantages……..……...…….14

CHAPTER II LITERATURE REVIEW……..……..15

CHAPTER III BASIC THEORY……..……...……..19

3.1 Blood Disorder……..……...…….19

3.1.1 Iron Deficiency……..……...…….19

3.1.2 Beta-Thalassemia Trait……..……...….20

3.1.3 HaemoglobinE……..……...……..21

3.1.4 Mix……..……...……22

3.2 Machine Learning…… ……22

3.2.1 K-NN……..……...…….22

3.2.2 Euclidean Distance……..……...……23

3.2.3 Confusion Matrix……..……...……..25

UNIVERSITAS
GADJAH MADA
ANEMIA CLASSIFICATION MODEL USING K-NEAREST NEIGHBOR METHOD
RIDZKI RACHMADEPUTRA, Afiahayati, S.Kom., M.Kom., Ph.D
Universitas Gadjah Mada, 2022 | Diunduh dari http://etd.repository.ugm.ac.id/

3.3 Hematology Analyzer……..……..……26

CHAPTER IV RESEARCH METHODOLOGY……..……27

4.1 Research Description……..……..……...27

4.2 Literature Study……..……..……...27

4.3 Data Acquisition……..……..……..27

4.4 System Design……..……..……28

4.5 Experiment Design……..……..……..30

4.6 Implementation……..……..……31

4.7 Evaluation……..……..……31

CHAPTER V IMPLEMENTATION……..……..….32

5.1 System Hardware and Software……..……32

5.2 System Implementation……..……..……...32

5.2.1 Data Collection……..……..…….32

5.2.2 Load Training Data.……..……..……..33

5.2.3 Load Testing Data…….……..……..……35

5.2.4 Normalized Dataset……..……..……..35

5.2.5 Training Process Using KNN and Euclidean Distance……36

5.2.6 Predicting Model….……..……..…….36

5.2.7 Confusion Matrix……..……..…….36

5.2.8 Accuracy……..……..……..37

5.2.9 Sensitivity……..……..……37

CHAPTER VI RESULTS AND DISCUSSION……..……39

6.1 Results of Preprocessing Data……..……..….39

6.2 Results of KNN Classification……..……...…40

UNIVERSITAS
GADJAH MADA
ANEMIA CLASSIFICATION MODEL USING K-NEAREST NEIGHBOR METHOD
RIDZKI RACHMADEPUTRA, Afiahayati, S.Kom., M.Kom., Ph.D
Universitas Gadjah Mada, 2022 | Diunduh dari http://etd.repository.ugm.ac.id/

6.3 Accuracy and Sensitivity……..……..…….47

6.4 Predicting Model……..……..……52

CHAPTER VII CONCLUSION AND SUGGESTIONS……..……..54

7.1 Conclusions……..……..…….54

7.2 Suggestions……..……..…….54

REFERENCES……..……..……55