

**CLASSIFICATION OF DIABETES MELLITUS USING
NAIVE BAYES METHOD**



**MARTINUS MARIO YULIANTO
19.K1.0025**

**FACULTY OF COMPUTER SCIENCE
SOEGIJAPRANATA CATHOLIC UNIVERSITY
2023**

HALAMAN PERNYATAAN ORISINALITAS

Yang bertanda tangan dibawah ini:

Nama : MARTINUS MARIO YULIANTO

NIM : 19.K1.0025

Progdi / Konsentrasi : Teknik Informatika

Fakultas : Ilmu Komputer

Dengan ini menyatakan bahwa Laporan Tugas Akhir dengan judul “CLASSIFICATION OF DIABETES MELLITUS USING NAIVE BAYES METHOD” tersebut bebas plagiasi. Akan tetapi bila terbukti melakukan plagiasi maka bersedia menerima sanksi sesuai dengan ketentuan yang berlaku.

Semarang, 23 Februari 2023

Yang menyatakan,



Martinus Mario Yulianto

HALAMAN PENGESAHAN



Judul Tugas Akhir : CLASSIFICATION OF DIABETES MELLITUS USING NAIVE
BAYES

METHOD

Diajukan oleh : MARTINUS MARIO YULIANTO

NIM : 19.K1.0025

Tanggal disetujui : 21 Februari 2023

Telah setuju oleh

Pembimbing : Y.b. Dwi Setianto S.T., M.Cs.

Penguji 1 : Yonathan Purbo Santosa S.Kom., M.Sc

Penguji 2 : Hironimus Leong S.Kom., M.Kom.

Penguji 3 : R. Setiawan Aji Nugroho S.T., MCompIT., Ph.D

Penguji 4 : Rosita Herawati S.T., M.I.T.

Penguji 5 : Y.b. Dwi Setianto S.T., M.Cs.

Penguji 6 : Yulianto Tejo Putranto S.T., M.T.

Ketua Program Studi : Rosita Herawati S.T., M.I.T.

Dekan : Dr. Bernardinus Harnadi S.T., M.T.

Halaman ini merupakan halaman yang sah dan dapat diverifikasi melalui alamat di bawah ini.

sintak.unika.ac.id/skripsi/verifikasi/?id=19.K1.0025

HALAMAN PERNYATAAN PUBLIKASI KARYA ILMIAH UNTUK KEPENTINGAN AKADEMIS

Yang bertanda tangan dibawah ini:

Nama : Martinus Mario Yulianto

Program Studi : Teknik Informatika

Fakultas : Ilmu Komputer

Jenis Karya : Skripsi

Menyetujui untuk memberikan kepada Universitas Katolik Soegijapranata Semarang Hak Bebas Royalti Noneksklusif atas karya ilmiah yang berjudul “ CLASSIFICATION OF DIABETES MELLITUS USING NAIVE BAYES METHOD”. Dengan Hak Bebas Royalti Noneksklusif ini Universitas Katolik Soegijapranata berhak menyimpan, mengalihkan media/formatkan, mengelola dalam bentuk pangkalan data (database), merawat, dan mempublikasikan tugas akhir ini selama tetap mencantumkan nama saya sebagai penulis / pencipta dan sebagai pemilik Hak Cipta.

Demikian pernyataan ini saya buat dengan sebenarnya.

Semarang, 21 Februari 2023

Yang menyatakan



Martinus Mario Yulianto

19.K1.0025

ACKNOWLEDGMENT

Praise and gratitude I pray to God Almighty for all the blessings and graces that have been given so that this research paper and research can be completed and completed. This thesis report is prepared as a graduation requirement for the undergraduate program in the Faculty of Computer Science at the Soegijapranata University Semarang, Central Java. For the moral support and assistance from various parties who have supported me on this occasion I would like thanks to :

1. God Almighty who has given grace, blessing, fluency and ability for the writer to finish this paper this project report.
2. Mr. Yulianto and Mrs. Linda as my parents who have provided full support to I. And thanks to them as my parents, I was able to complete this research project.
3. My grandmother and all of my family who have helped and encouraged the writer complete the writing of this project report.
4. Desthi Dwi Agita, Adi, and all the family who have supported the writer and helped the writer in finishing writing this thesis project.
5. Mr. Didik who has helped the author in consulting in working on the thesis project.
6. Mr. Dr. Ferdinandus Industrirto, S.Psi., M.Sc as Chancellor of Soegijapranata Semarang Catholic University.
7. Mr. Dr. Bernadinus Harnadi S.T., M.T., Ph.d as dean of the Faculty of Computer Science at Soegijapranata Catholic University Semarang.
8. Y.b. Dwi Setianto S.T., M.Cs.as Chair of the Informatics Engineering Study Program Study Program at Soegijapranata Catholic University Semarang.
9. The entire extended family of Soegijapranata Catholic University (UNIKA), especially my friends in the Informatics Engineering Department, for all their support, guidance, and collaboration.

The author realizes that there are still many shortcomings and errors in the writing and research that has been compiled. Therefore, the first author apologizes for the error. Criticism and suggestions from readers can be conveyed to the author. Hopefully this report can be useful for many parties, thank you.

ABSTRACT (ABSTRACT TITLE)

Diabetes mellitus is an epidemic of chronic disease caused by blood sugar or glucose levels in the body that are too high or above normal. There are 3 types of diabetes mellitus, namely type 1 diabetes mellitus, type 2 diabetes mellitus and gestational diabetes mellitus. Indonesia is the highest contributor to diabetes mellitus in the world. Diabetes Mellitus itself has several symptoms such as easy hunger, easy sleepiness, high thirst, and many more of them. Diabetes Mellitus itself can give all humans without exception and regardless of their age. This disease is generally caused by a lack of awareness of maintaining a healthy body, and the general public's ignorance of the disease it causes. Therefore, the authors created a system that is used to be able to detect whether a person has diabetes mellitus or not. The purpose of making this system is to assist the wider community in helping to detect diabetes mellitus at an early stage. This system uses the Naïve Bayes algorithm to detect Diabetes Mellitus. In this paper the authors detect the performance of the Naïve Bayes method in detecting diabetes mellitus. This analysis uses Accuracy, Precision, and Recall. The results obtained in this study are that Naïve Bayes is very good for analyzing diabetes mellitus suffered with % accuracy, % precision, and % recall.

Keyword: Diabetes Mellitus, Naïve Bayes, web

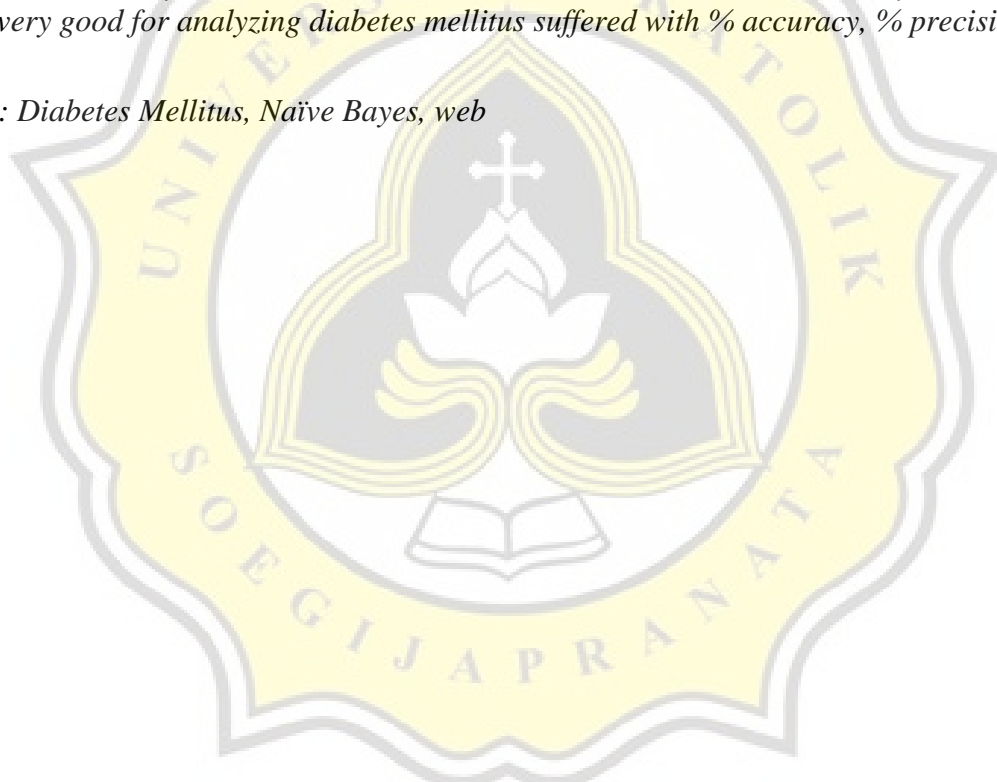


TABLE OF CONTENTS

COVER	i
APPROVAL AND RATIFICATION PAGE	ii
DECLARATION OF AUTHORSHIP (Heading Plain)	iii
HALAMAN PERNYATAAN PUBLIKASI KARYA ILMIAH UNTUK KEPENTINGAN AKADEMIS	iv
ACKNOWLEDGMENT	v
ABSTRACT (Abstract Title)	vi
TABLE OF CONTENTS	vii
LIST OF FIGURE	ix
LIST OF TABLE	x
CHAPTER 1 INTRODUCTION	1
1.1. Background.....	1
1.2. Problem Formulation.....	1
1.3. Scope.....	1
1.4. Objective.....	3
CHAPTER 2 LITERATURE STUDY	a
CHAPTER 3 RESEARCH METHODOLOGY	9
3.1. Identification Problems	9
3.2. Literature Study	10
3.3. Discussion and consultation	10
3.4. Data collection.....	10
3.5. Research Methods	10
3.6. Create Programs	10
3.7. Testing	10
3.8. Conclusion & Recommendation	10
CHAPTER 4 IMPLEMENTATION AND RESULTS	11
4.1. Experiment Setup	11
4.2. Implementation.....	11
4.3. Results	14
4.4. Discussion.....	23

CHAPTER 5 CONCLUSION..... 25
REFERENCES..... 26
APPENDIX..... 27



LIST OF FIGURE

Figure 1.1 Growth chart of diabetes mellitus graphic.....	10
Figure 3.1 Research Methodology.....	10



LIST OF TABLE

Table 1. The variable table uses 580 data.....	1Error! Bookmark not defined.
Table 2. The variable table uses 384 data.....	15
Table 3. The variable table uses 50 data.....	15
Table 4. The variable table uses 50 old data.....	16
Table 5. The variable table uses 50 new data.....	17
Table 6. Table removed variable x1.....	18
Table 7. Table removed variable x2.....	19
Table 8. Table removed variable x3.....	19
Table 9. Table removed variable x4.....	20
Table 10. Table removed variable x5.....	21
Table 11. Table removed variable x6.....	22
Table 12. Table removed variable x7.....	22
Table 13. Table removed variable x8.....	23