

**COMPARATIVE ANALYSIS OF RANDOM FOREST
AND GRADIENT BOOSTING FOR EARLY
DETECTION OF DENGUE FEVER IN REGIONAL
HOSPITAL**



**INFORMATION SYSTEM STUDY PROGRAM
DEPARTMENT OF INFORMATICS ENGINEERING
FACULTY OF ENGINEERING AND VOCATIONAL
UNIVERSITAS PENDIDIKAN GANESHA
SINGARAJA**

2026

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UNDERGRADUATE THESIS



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UNDERGRADUATE THESIS

SUBMITTED IN FULFILLMENT OF THE REQUIRED ACADEMIC WORK AND IN COMPLETION OF THE REQUIREMENTS TO OBTAIN THE DEGREE OF BACHELOR OF COMPUTER SCIENCE

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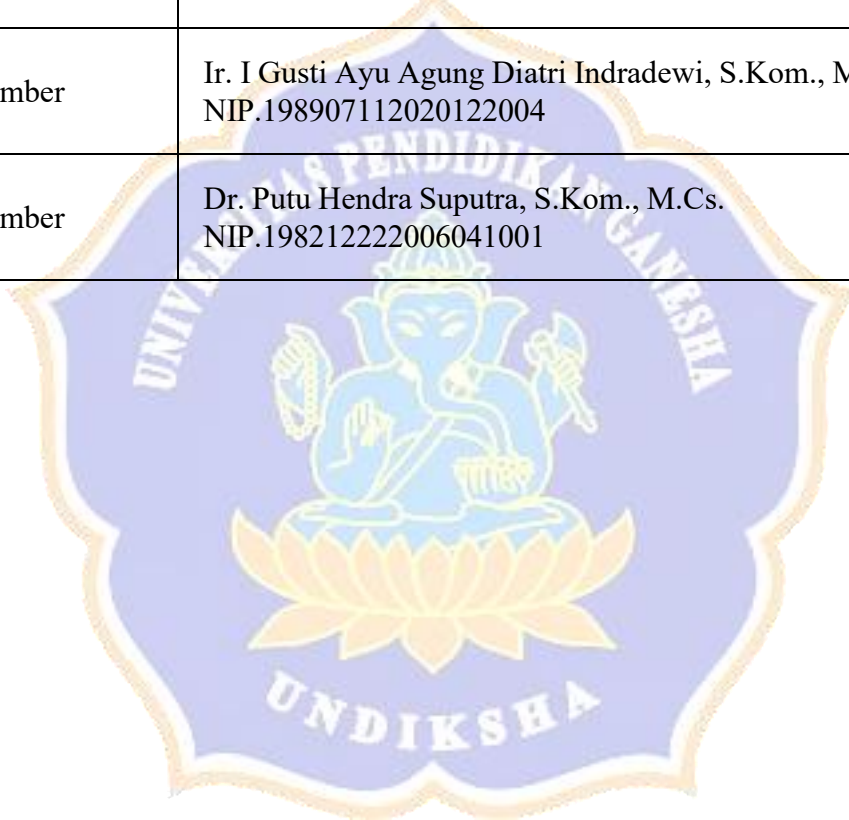


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Undergraduate Thesis by Made Dwi Aprillia Kusuma Wiryani
Has been defended before the Board of Examiners
on the date of May 25, 2026

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to fulfill the requirements to obtain the undergraduate degree of bachelor of
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STATEMENT OF AUTHENTICITY

I hereby declare that this academic work entitled “Comparative Analysis of Random Forest and Gradient Boosting for Early Detection of Dengue Fever in Regional Hospital” and all its contents are truly my own work, and I have not committed plagiarism or cited in ways inconsistent with the ethics prevailing in the academic community. I am prepared to bear any risk/sanction imposed on me if violations of academic ethics are found in this work, or if there are claims against its authenticity.

Singaraja, 10 June 2026

Statement made by,



Made Dwi Aprillia Kusuma Wiryani
NIM 2215091106

DEDICATION

The author humbly offers the highest praise and deepest gratitude to

Ida Sang Hyang Widhi Wasa

For His abundant blessings and grace, which have guided the author through every step of this journey, granting the strength and ease to complete this undergraduate thesis successfully. This thesis is dedicated to:

BELOVED PARENTS

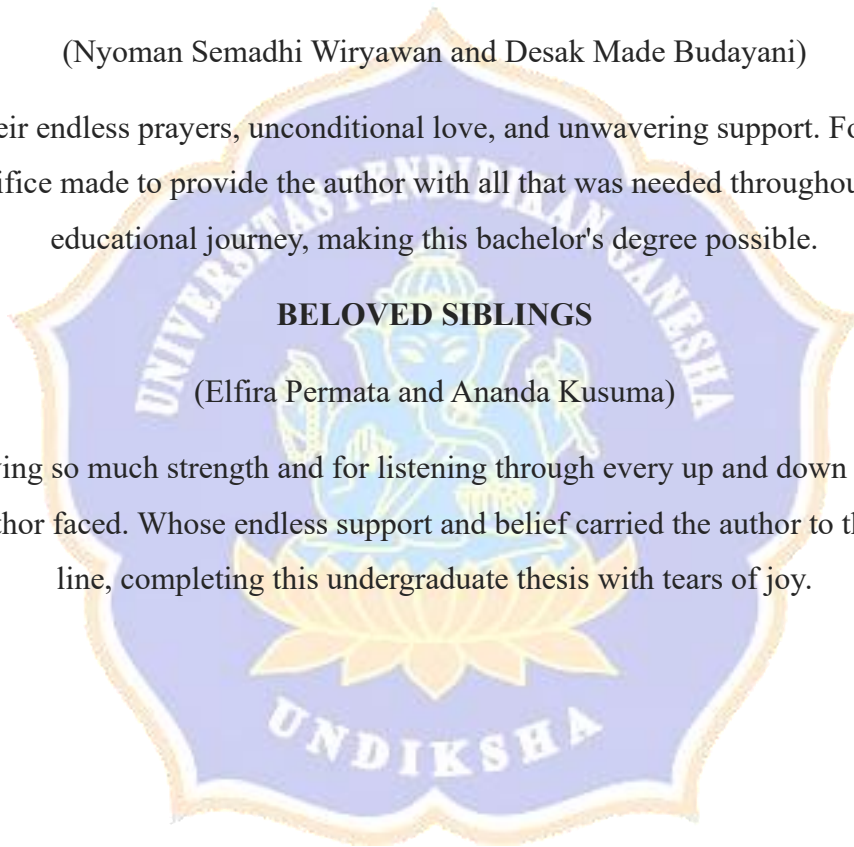
(Nyoman Semadhi Wiryawan and Desak Made Budayani)

For their endless prayers, unconditional love, and unwavering support. For every sacrifice made to provide the author with all that was needed throughout this educational journey, making this bachelor's degree possible.

BELOVED SIBLINGS

(Elfira Permata and Ananda Kusuma)

For giving so much strength and for listening through every up and down moment that author faced. Whose endless support and belief carried the author to the finish line, completing this undergraduate thesis with tears of joy.



MOTTO

“Compete only with who you were yesterday. Stay disciplined, stay honest, stay confident, keep growing.”



PREFACE

The author would like to express the highest praise and deepest gratitude to *Ida Sang Hyang Widhi Wasa* for His abundant blessings and grace, which have guided and strengthened the author throughout the completion of this thesis entitled "Comparative Analysis of Random Forest and Gradient Boosting for Early Detection of Dengue Fever in Regional Hospital." This thesis is submitted in partial fulfillment of the requirements for obtaining a Bachelor's degree in Information Systems at Universitas Pendidikan Ganesha. The completion of this thesis would not have been possible without the invaluable support, guidance, and encouragement, both moral and material, from many parties. Therefore, the author would like to take this opportunity to express sincere gratitude to the following:

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The author acknowledges that this thesis is far from perfect and that there remains much room for improvement. Constructive criticism and suggestions from any party are therefore sincerely welcomed. It is the author's hope that this thesis may prove beneficial for every reader.

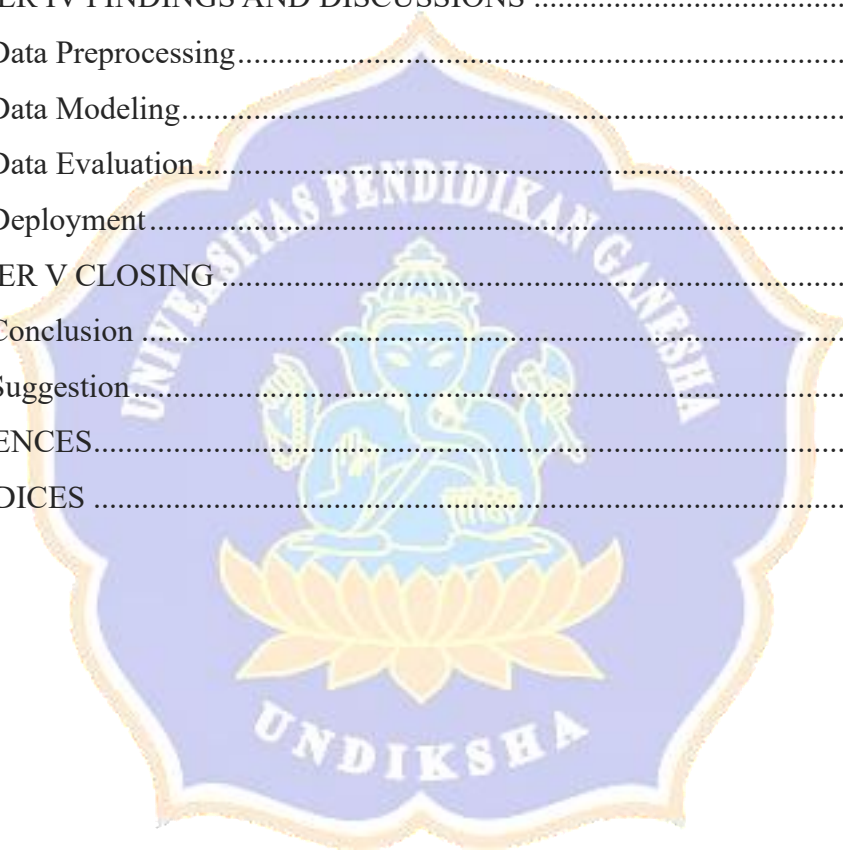
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Author

LIST OF CONTENT

APPROVAL PAGE SUPERVISORS.....	iii
APPROVAL PAGE EXAMINERS.....	iv
APPROVAL AND ENDORSEMENT PAGE EXAMINATION COMMITTEE ...	v
UNDERGRADUATE THESIS.....	ii
STATEMENT OF AUTHENTICITY	vi
DEDICATION	vii
MOTTO.....	viii
PREFACE	ix
ABSTRACT.....	xi
ABSTRAK.....	xii
LIST OF CONTENT.....	xiii
LIST OF FIGURES.....	xv
LIST OF TABLES.....	xvi
LIST OF APPENDICES	xvii
CHAPTER I INTRODUCTION.....	1
1.1 Research Background.....	1
1.2 Problem Identification.....	5
1.3 Research Question.....	5
1.4 Research Limitation	5
1.5 Research Objective.....	6
1.6 Research Significance	7
CHAPTER II THEORETICAL FRAMEWORK	9
2.1 Literature Review.....	9
2.2 Theoretical Basis.....	12
2.2.1 Dengue Fever	12
2.2.2 Data Mining	14
2.2.3 Cross-Industry Standard Process for Data Mining.....	17
2.2.4 Ensemble Learning.....	19
2.2.5 Random Forest	22
2.2.6 Gradient Boosting	24

2.2.7 Evaluation Metrics	25
CHAPTER III RESEARCH METHODOLOGY	29
3.1 Research Framework.....	29
3.2 Data Collection.....	30
3.3 Data Preparation.....	34
3.4 Modeling	35
3.5 Evaluation	36
3.6 Deployment.....	37
CHAPTER IV FINDINGS AND DISCUSSIONS	40
4.1 Data Preprocessing.....	40
4.2 Data Modeling.....	43
4.3 Data Evaluation.....	46
4.4 Deployment.....	49
CHAPTER V CLOSING	58
5.1 Conclusion	58
5.2 Suggestion.....	59
REFERENCES.....	61
APPENDICES	65

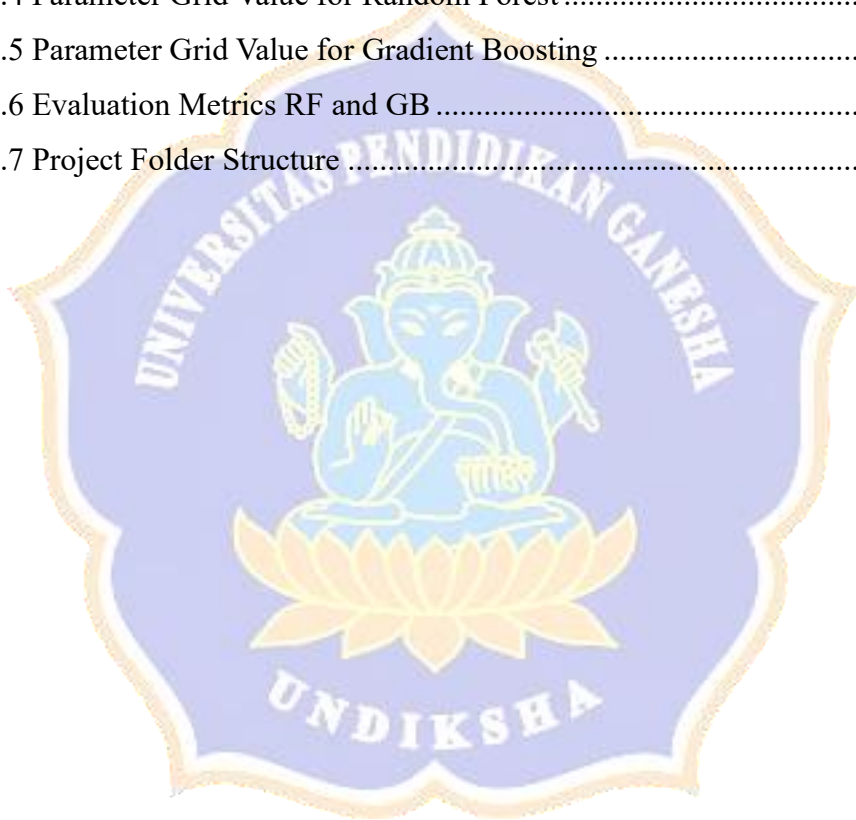


LIST OF FIGURES

Figure 1.1 Global Dengue Virus Spread (2014-2024)	2
Figure 1.2 Dengue Fever Cases in 2024	2
Figure 2.1 Dengue Virus Transmission Cycle.....	12
Figure 2.2 The Process of Knowledge Discovery in Databases	17
Figure 2.3 Workflow of Ensemble Learning.....	21
Figure 2.4 Workflow of Random Forest	23
Figure 2.5 Workflow of Gradient Boosting	25
Figure 3.1 Proposed Method Flowchart.....	29
Figure 3.2 Rumah Sakit Umum Daerah Buleleng	31
Figure 3.3 Dataset Overview.....	34
Figure 3.4 User Interface Design Form.....	38
Figure 3.5 User Interface Design Result.....	38
Figure 4.1 Correlation Heatmap of Clinical Features	42
Figure 4.2 RF Confusion Matrix.....	49
Figure 4.3 GB Confusion Matrix	49
Figure 4.4 System Architecture.....	51
Figure 4.5 Implementation Landing Page.....	52
Figure 4.6 Implementation Form Input System	54
Figure 4.7 Implementation Form Input Classification Result.....	55
Figure 4.8 Homepage Indonesian Version	57
Figure 4.9 Formpage Indonesian Version	57

LIST OF TABLES

Table 2.1 Advantages and Disadvantages of Ensemble Learning.....	20
Table 2.2 Advantages and Disadvantages of Random Forest	22
Table 2.3 Confusion Matrix	27
Table 3.1 Dataset Description	32
Table 4.1 Missing Value Results	40
Table 4.2 Number of Data Entries After Data Cleaning	42
Table 4.3 Class Distribution in Training and Testing.....	43
Table 4.4 Parameter Grid Value for Random Forest	44
Table 4.5 Parameter Grid Value for Gradient Boosting	45
Table 4.6 Evaluation Metrics RF and GB	47
Table 4.7 Project Folder Structure	51



LIST OF APPENDICES

Appendix 1. Author Profile	65
Appendix 2. Patient Clinical Dataset	66
Appendix 3. Data Preprocessing Code	82
Appendix 4. Data Modelling Code	85
Appendix 5. Data Request Letter to RSUD Buleleng Signed by Wakil Dekan Bidang Akademik Fakultas Teknik dan Kejuruan.....	89
Appendix 6. Data Request Letter to RSUD Buleleng Signed by Ketua Jurusan Teknik Informatika.....	90
Appendix 7. Responded Letter by Wakil Direktur SDM RSUD Buleleng to Dekan Fakultas Teknik dan Kejuruan.....	91
Appendix 8. Permission Letter to Kepala IGD, NICU, PICU, Poli Anak, and Poli Interna for Data Collection Request.....	92
Appendix 9. Detail of Payment for Proposal and Data Collection at RSUD Buleleng	93
Appendix 10. Payment Proof for Research Permission at RSUD Buleleng	94
Appendix 11. Form Request Medical Records	95
Appendix 12. Data Request Letter to Dinas Penanaman Modal dan PTSP Kabupaten Buleleng Signed by Wakil Dekan Bidang Akademik Fakultas Teknik dan Kejuruan	96
Appendix 13. Publish Permission from Dinas Penanaman Modal dan PTSP Buleleng	97