**B.Tech. BCSE497J - Project-I**

**Machine Learning Approaches for Precision Crop Water Estimation: A Comparative Analysis**

*Submitted in partial fulfillment of the requirements for the degree of*

**Bachelor of Technology**

*in*

**Programme**

*by*

## 

|  |  |
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## Under the Supervision of

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| School of Computer Science and Engineering (SCOPE) |



November 2024

**DECLARATION**

I hereby declare that the project Machine Learning Approaches for Precision Crop Water Estimation: A Comparative Analysis entitled submitted by me, for the award of the degree of *Bachelor of Technology in Computer Science and Engineering* to VIT is a record of bonafide work carried out by

under the supervision of Prof. / Dr. Vetriselvi T

I further declare that the work reported in this project has not been submitted and will not be submitted, either in part or in full, for the award of any other degree or diploma in this institute or any other institute or university.

Place : Vellore Date : 20/11/2024

**Signature of the Candidate**

**CERTIFICATE**

This is to certify that the project entitled Machine Learning Approaches for Precision Crop Water Estimation: A Comparative Analysis submitted by Nikita Prashant Singh(21BCE3725), Nitesh Jeganathan(21BCE3745), Pratham Harsh Vidhani(21BCI0378), **School of Computer Science and Engineering**, VIT, for the award of the degree of *Bachelor of Technology in Computer Science and Engineering*, is a record of bonafide work carried out by him / her under my supervision during Fall Semester 2024-2025, as per the VIT code of academic and research ethics.

The contents of this report have not been submitted and will not be submitted either in part or in full, for the award of any other degree or diploma in this institute or any other institute or university. The project fulfills the requirements and regulations of the University and in my opinion meets the necessary standards for submission.

Place : Vellore

Date : 20/11/2024

**Signature of the Guide**

**Examiner(s)**

**<< Head of the Department >>**

**<< Programme >>**

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**Name of the Candidate**

**TABLE OF CONTENTS**

<Contents, Times New Roman 12, Line spacing 1.5>

|  |  |  |
| --- | --- | --- |
| **Sl.No** | **Contents** | **Page No.** |
|  | **Abstract < Capitalize Each Word, Bold>** | **i** |
| **1.** | **INTRODUCTION <Uppercase, Bold>** | **1** |
|  | 1.1 Background <Capitalize Each Word, Normal> | **1** |
|  | 1.2 Motivations | **1** |
|  | 1.3 Scope of the Project | **1** |
| **2.** | **PROJECT DESCRIPTION AND GOALS** |  |
|  | 2.1 Literature Review |  |
|  | 2.2 Research Gap |  |
|  | 2.3 Objectives |  |
|  | 2.4 Problem Statement |  |
|  | 2.5 Project Plan |  |
| **3.** | **TECHNICAL SPECIFICATION** |  |
|  | 3.1 Requirements |  |
|  | 3.1.1 Functional |  |
|  | 3.1.2 Non-Functional |  |
|  | 3.2 Feasibility Study |  |
|  | 3.2.1 Technical Feasibility |  |
|  | 3.2.2 Economic Feasibility |  |
|  | 3.2.2 Social Feasibility |  |
|  | 3.3 System Specification |  |
|  | 3.3.1 Hardware Specification |  |
|  | 3.3.2 Software Specification |  |
| **4.** | **DESIGN APPROACH AND DETAILS** |  |
|  | 4.1 System Architecture |  |
|  | 4.2 Design |  |
|  | 4.2.1 Data Flow Diagram |  |
|  | 4.2.2 Use Case Diagram |  |
|  | 4.2.3 Class Diagram |  |
|  | 4.2.4 Sequence Diagram |  |
| **5.** | **METHODOLOGY AND TESTING** |  |
|  | << Module Description >> |  |
|  | << Testing >> |  |
| **6.** | **PROJECT DEMONSTRATION** |  |
| **7.** | **RESULT AND DISCUSSION (COST ANALYSIS as applicable)** |  |
| **8.** | **CONCLUSION** |  |
| **9.** | **REFERENCES** |  |
|  | **APPENDIX A – SAMPLE CODE** |  |

### List of Figures

|  |  |  |
| --- | --- | --- |
| **Figure No.** | **Title** | **Page No.** |
| 2.1 | Figure caption | 10 |
| 2.2 | Figure caption | 15 |

(In the chapters, figure caption should come below the figure and table caption should come above the table. Figure and table captions should be of font size 10.)

**List of Tables**

**Table No. Title Page No.**

2.1 Table caption 28

## List of Abbreviations

2G Second Generation

3GPP Third Generation Partnership Project

3G Third Generation

4G Fourth Generation

AWGN Additive White Gaussian Noise

BBE Background Block Error

CSMA Carrier Sense Multiple Access

DAS Direct Attached Storage

Note: All the abbreviations should follow Alphabetical order

**Symbols and Notations**

f CFO

 NCFO

## ABSTRACT

**(Times New Roman 16, Bold, Upper Case, Line spacing 1.5)**

<Contents, Times New Roman 12, Line spacing 1.15>

One page and not exceeding 500 words (minimum 300 words)

**1. INTRODUCTION**

<Contents, Times New Roman 12, Line spacing 1.15>

**7. REFERENCES**

<Contents, Times New Roman 12, Line spacing 1.15>

<< IEEE, Harvard Format >>

1. Apruzzese, G., Laskov, P., Montes de Oca, E., Mallouli, W., Brdalo Rapa, L., Grammatopoulos, A.V. and Di Franco, F., 2023. The role of machine learning in cybersecurity. *Digital Threats: Research and Practice*, *4*(1), pp.1-38.
2. Dasgupta, D., Akhtar, Z. and Sen, S., 2022. Machine learning in cybersecurity: a comprehensive survey. *The Journal of Defense Modeling and Simulation*, *19*(1), pp.57-106.

**APPENDIX A – Sample Code**