A

MINI- PROJECT REPORT

ON

Early screening of Gestational diabetes

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

**Bachelor of Technology**

In

**Information Technology**

*By*

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Under the guidance

of

**Prof. Rubi Mandal**



**DEPARTMENT OF INFORMATION TECHNOLOGY**

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**Academic Year 2023-24**

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**Academic Year 2023-24**



***CERTIFICATE***

This is to certify that the TY B.TECH. Mini Seminar Report Entitled

**“Early screening of Gestational diabetes”**

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is a record of bonafide work carried out by him/her, under our guidance, in partial fulfillment of the requirement for the award of Degree of Bachelors of Technology (Information Technology) at Shri Vile Parle Kelawani Mandal's Institute Of Technology, Dhule under the Dr. Babasaheb Ambedkar Technological University, Lonere, Maharashtra. This work is done during semester VI of Academic year 2023-24.

Date:

Place: SVKM’s IOT, Dhule

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Name and Sign with date Name and Sign with date

Examiner-1 Examiner-2

II

**DECLARATION**

We declare that this written submission represents my ideas in our own words and where others ideas or words have been included, we have adequately cited and referenced the sources. We also declare that we have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in our submission. We understand that any violation of the above will cause disciplinary action by the Institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

Signatures

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**ABSTRACT**

Gestational diabetes is a type of diabetes that develops during pregnancy in women who didn't have diabetes before they were pregnant can typically develops in the middle of pregnancy, between 24 and 28 weeks. Most women with gestational diabetes don't have any symptoms. It significantly increases mother’s risk of developing type 2 diabetes later in life. Gestational diabetes can lead to larger babies, early delivery, low blood sugar in newborns, and an increased risk of type 2 diabetes for both mom and baby later in life. The goal of this work is to more accurately predict gestational diabetes in the early stages by utilizing different machine learning methods. The data set that has been used in this project is taken from the kaggle containing 768 record which is passed through the different preprocessing steps which is further used to train our support vector model. Later it under goes to model evaluation to find model accuracy.By building models from patient datasets, machine learning algorithms yield superior results when it comes to diabetes detection. For this project we have used Support Vector Machine and Logistic Regression. To test the model, inputs were taken from case study available on National Library of Medicine. In this case, the 31-year woman was suffering from gestational diabetes. According to the article we took the inputs like BP, BMI, insulin level and pregnancy history. The inputs used in model correctly predicted that she will suffer from gestational diabetes.

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**LIST OF ABBREVIATIONS**

|  |  |
| --- | --- |
| **EN** | **Entropy** |
| SVM | Support Vector Machines |
| ML | Machine Learning |
| GDM | gestational diabetes mellitus |
| GDPR | General Data Protection Regulation |
| HIPAA | Health Insurance Portability and Accountability Act |

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