

Project Design Phase-I

Proposed Solution Template

TEAM:

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Proposed Solution Template:

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	we aim to use machine learning algorithms to predict the onset of diabetes in individuals based on their health records and other relevant factors such as age, BMI, family history, and lifestyle habits. The dataset used in this project will include information on various clinical parameters such as blood pressure, BMI, Heart diseases and cholesterol levels. Our goal is to develop a predictive model that can accurately identify individuals who are at high risk of developing diabetes, thereby allowing for early intervention and prevention of the disease. By using machine learning techniques to analyse large amounts of data, we can identify patterns and make accurate predictions that could potentially save lives.
2.	Idea / Solution description	To create a prediction model capable of predicting possible problems in individuals with diabetes. Through patient data analysis and the use of machine with the use of learning algorithms, we hope to identify high-risk people who are more likely to encounter diabetes problems, making medical care possible professionals to give specialized treatment and remedies.
3.	Novelty / Uniqueness	By combining convolutional neural networks (CNNs) designed especially for this task with machine learning models, this effort offers a revolutionary method of predicting diabetes. The incorporation of CNNs is a novel feature that enables the

		<p>model to learn spatial features from medical pictures or other visual data linked to diabetes screening (if available), which is in contrast to earlier studies that employed machine learning to predict diabetes. The accuracy and dependability of diabetes prediction may be enhanced by this blending of several methodologies.</p>
4.	Social Impact / Customer Satisfaction	<p>Diabetes Forecast by enabling early diabetes identification and prevention, machine learning can have a big social impact. Better health outcomes for people and less strain on healthcare systems may result from this. Furthermore, by offering tailored advice and treatments to control diabetes risk, precise forecasts can raise customer satisfaction.</p>
5.	Business Model (Revenue Model)	<p>Diabetes prediction models based on machine learning can be made profitable in a number of ways. Providing these models to healthcare professionals as a service is one approach. In order to use the models to identify patients who are at risk of acquiring diabetes, providers must pay a fee to access them. Creating an application that predicts diabetes risk using machine learning algorithms is an additional approach. The program may be made available for free or for a cost, with the option to purchase extra features. Moreover, insurance firms can employ diabetes prediction models based on machine learning to identify high-risk individuals and modify rates appropriately. This can lower risk exposure and increase profitability for insurance firms.</p>
6.	Scalability of the Solution	<p>Ensuring that the system can manage growing amounts of data, user expectations, and computational demands. Distributed computing frameworks and scalable algorithms are necessary for effectively managing larger datasets .to include model upkeep and updates. When new data becomes available, the system should enable updates with ease, enabling retraining or fine-tuning without interfering with the workflow as a whole.</p>