

Project Design Phase-I

Solution Architecture

Date	8 NOVEMBER 2023
Team ID	Team-591645
Project Name	Diabetes Prediction Using Machine Learning
Maximum Marks	4 Marks

Solution Architecture

Our diabetes detection project leverages cutting-edge AI and machine learning techniques to revolutionise the way diabetes is diagnosed and managed. Our architecture combines data science, healthcare expertise, and technology to create a comprehensive solution that benefits patients, healthcare providers, and the environment.

Designing a solution architecture for a diabetes detection project using machine learning involves multiple components and considerations. Below is a high-level architecture for such a project:

- Data collection, cleaning, and preprocessing.
- Feature engineering and selection.
- Model selection and training (e.g., logistic regression, decision trees, or deep learning).
- Hyperparameter tuning for optimal performance.
- Model evaluation using appropriate metrics.
- Model deployment (e.g., API, containers, or cloud-based solutions).
- Continuous monitoring, maintenance, and retraining.
- User-friendly interface development.
- Security and compliance with healthcare regulations.
- Documentation and integration with healthcare systems.
- Scalability and performance optimization.
- Feedback loop for continuous improvement.

Solution Architecture Diagram


