Diabetes has been a major global heath threat and millions of people around the world stays under the condition of this disease along with the science and technology have made a huge progress in medical sector . In the medical science field ML(Machine Learning) has brought significant changes . I have gone through three different research about diabetes prediction with ML . Here I am giving a brief those papers .

In the first publication [1], a dataset is used to classify or predict if a person has diabetes or not. Comparisons between the classification of ML and neural-network models with counterfeit are developed. This paper[1] also compares accuracy and precision, proving the suitability of the suggested framework. A quick overview of the Related Work from a related field is provided in the remaining research paper. The material and implementation techniques are also included in the article. Results and a discussion of the statistical variances of several machine learning classifiers that are employed for further prediction are presented later in this study [1]. The results of the suggested effort are finally laid out in the conclusion and future scope.

The second study [2] offers a thorough review of current developments in diabetes categorisation using machine learning algorithms, stressing their advantages, disadvantages, and potential future developments. There is a thorough discussion of a variety of machine learning techniques, support vector machines, decision trees, random forests, artificial neural networks, and ensemble approaches. Additionally, the evaluation metrics, feature selection strategies, and data preprocessing approaches used in diabetes classification research are reviewed. Furthermore, issues including interpretability, data imbalance, and generalisation across various populations are addressed. Lastly, possible directions for further study are suggested in order to improve the precision and usefulness of ML-based diabetes categorisation systems.

In the third paper [3] the paper does a study on different machine learning classification algorithms for predicting diabetes. The different classification algorithms are k- Nearest Neighbor, Naive Bayes, Random Forest, Support Vector Machine, Decision Tree, etc are done on diabetes data set.

References:

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[2 ] J. A. Mosa and A. M. Abdulazeez, “A Review on Diabetes Classification Based on Machine Learning Algorithms,” *Indonesian Journal of Computer Science*, vol. 13, no. 2, pp. 2445-2456, 2024.

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