**LITERATURE SURVEY**

# 1) Hyperglycemia Prediction Using Machine Learning: A Probabilistic Approach

**AUTHORS:** [**Vishwas Agrawal**](https://www.researchgate.net/scientific-contributions/Vishwas-Agrawal-2157635302)**,** [**Pushpa Singh**](https://www.researchgate.net/profile/Pushpa-Singh-5)

The incidence of diabetes is on the rise all over the globe. Therefore, a proper approach is necessary to identify the diabetic patients at the earliest and provide appropriate lifestyle intervention in preventing or postponing the onset of diabetes. Hyperglycemia and hypoglycemia are two important consequences of diabetes computed on the basis of blood glucose level. In this paper, we propose a machine learning approach to identify the probability of occurrence of hyperglycemia with the impact of physical activity (exercise). This prediction will be helpful in order to reduce the risk factor of hyperglycemia by timely taken preventive step and changing their lifestyle.

# 2) Blockchain With IoT and AI: A Review of Agriculture and Healthcare

# AUTHORS: [Pushpa Singh](https://www.researchgate.net/profile/Pushpa-Singh-5), [Narendra Singh](https://www.researchgate.net/profile/Narendra-Singh-4)

# Blockchain, Internet of Things (IoT), and Artificial Intelligence (AI) are remarkable emerging technologies in the coming few decades. Blockchain technology makes the application more secure and transparent, AI offers analyses the application, and IoT makes the application connected, flexible, and efficient. This paper studies the literature, formulates the research question, and summarizes the contribution of blockchain application, particularly targeting AI and IoT in agriculture and healthcare sectors. This study reveals that 20% of papers are available in agriculture and 14% available in healthcare that integrates blockchain with IoT and AI. Furthermore, the objective of the paper is to study the role of blockchain with IoT and AI in agriculture and healthcare systems in light of the literature review. The integration of blockchain with IoT and AI are playing important roles in agriculture and healthcare fields to manage food supply chains, drug supply chains, traceability of products, smart contracts, monitoring the products, connected, and intelligent prediction.

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# 3) Artificial Intelligence: The Future for Diabetes Care

**AUTHORS** **:** [**Samer Ellahham**](https://pubmed.ncbi.nlm.nih.gov/?term=Ellahham+S&cauthor_id=32325045)

# Artificial intelligence (AI) is a fast-growing field and its applications to diabetes, a global pandemic, can reform the approach to diagnosis and management of this chronic condition. Principles of machine learning have been used to build algorithms to support predictive models for the risk of developing diabetes or its consequent complications. Digital therapeutics have proven to be an established intervention for lifestyle therapy in the management of diabetes. Patients are increasingly being empowered for self-management of diabetes, and both patients and health care professionals are benefitting from clinical decision support. AI allows a continuous and burden-free remote monitoring of the patient's symptoms and biomarkers. Further, social media and online communities enhance patient engagement in diabetes care. Technical advances have helped to optimize resource use in diabetes. Together, these intelligent technical reforms have produced better glycemic control with reductions in fasting and postprandial glucose levels, glucose excursions, and glycosylated hemoglobin. AI will introduce a paradigm shift in diabetes care from conventional management strategies to building targeted data-driven precision care.

# 4) A Customer Centric Best Connected Channel Model for Heterogeneous and IoT Networks

**AUTHORS :** [**Pushpa Singh**](https://www.researchgate.net/profile/Pushpa-Singh-5)**,** [**Rajeev Agrawal**](https://www.researchgate.net/profile/Rajeev-Agrawal)

# This article describes how the Heterogeneous and IoT networks are the most sought solutions to significant coverage and connectivity to the users. This article suggests a model for a heterogeneous and IoT network comprised of grading of the users based on their movement pattern, usage, and applications. Users are then given preferential possible access to the best connected network on the basis of their loyalty factor. The proposed model is customer centric and provides a best suited network to their loyal user on different aspects of the usage. Simulation studies were carried out to establish the suitability of the proposed work. The work also presents a scheme to retain the loyal customers in their network by providing them better services.

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# 5) Machine learning and artificial intelligence based Diabetes Mellitus detection and self-management: A systematic review

# AUTHORS: [JyotismitaChaki](https://www.sciencedirect.com/science/article/pii/S1319157820304134" \l "!)[a](https://www.sciencedirect.com/science/article/pii/S1319157820304134" \l "!)[S.Thillai Ganesh](https://www.sciencedirect.com/science/article/pii/S1319157820304134" \l "!)

# Diabetes Mellitus (DM) is a condition induced by unregulated diabetes that may lead to multi-organ failure in patients. Thanks to advances in machine learning and artificial intelligence, which enables the early detection and diagnosis of DM through an automated process which is more advantageous than a manual diagnosis. Currently, many articles are published on automatic DM detection, diagnosis, and self-management via machine learning and artificial intelligence techniques. This review delivers an analysis of the detection, diagnosis, and self-management techniques of DM from six different facets viz., datasets of DM, pre-processing methods, feature extraction methods, machine learning-based identification, classification, and diagnosis of DM, artificial intelligence-based intelligent DM assistant and performance measures. It also discusses the conclusions of the previous study and the importance of the results of the study. Also, three current research issues in the field of DM detection and diagnosis and self-management and personalization are listed. After a thorough screening procedure, 107 main publications from the Scopus and PubMed repositories are chosen for this study. This review provides a detailed overview of DM detection and self-management techniques which may prove valuable to the community of scientists employed in the area of automatic DM detection and self-management.