

Literature Survey

IBM NTP Project - Nutrition Assistant Application

1. **Development of a cloud-based solution for effective nutrition intervention in the management of lifestyle diseases.**

Authors: Manju P George, C. A. Kalpana

Year: 2020

This paper proposes a system that aims to bridge the gap between clinical nutrition and the common man. For the purpose of prescribing therapeutic nutrition in clinical settings, a web-based application is being developed. The cloud-based solution would be able to figure out the nutritional needs and automatically direct first-line nutritional treatment to patients and clients. Additionally, it functions as an electronic medical and dietetic record, allowing for the planning of a customised nutrition counselling approach around the client's hectic schedule. One method is much simpler, and the client can speak with his or her personal nutritionist in a setting that suits them.

2. **Cloud Based Metalearning System for Predictive Modeling of Biomedical Data**

Authors: Milan VukiTeviT, Sandro RadovanoviT, Miloš MilovanoviT, and Miroslav MinoviT

Year: 2013

This research presented a cloud-based infrastructure for biomedical big data storage, processing, and predictive modelling. The meta-learning system is added to the existing service-based cloud architecture as a knowledge service that is data and model driven. We supported community-based data and algorithm collecting as part of the suggested architecture because it is a crucial prerequisite for the high quality of meta learning. Through a platform for the development and execution of distributed data mining processes and algorithms, this research field can advance and gain new value. Finally, we provide data- and

model-driven decision help for choosing the optimal biomedical data processing techniques.

3. DeepFood: Automatic Multi-Class Classification of Food Ingredients Using Deep Learning

Authors: Lili Pan, Samira Pouyanfar, Hao Chen, Jiaohua Qin

Year: 2017

This study suggests the DeepFood framework, which combines various deep feature sets, a number of feature selections, and an improved classifier known as SMO to automatically multi-class categorise food items using deep learning. The architecture is made to categorise small to medium-sized datasets, which is a highly common and essential task in practical applications.

4. Study for Food Recognition System Using Deep Learning

Authors: Nareen O. M.Salim, Subhi R. M. Zeebaree, Mohammed A.M.Sadeeq A.H Radie

Year: 2013

This paper reviewed a significant number of recent articles on the APP on the deep learning of foodstuffs, and it went into detail about each article's structure, training methodology, and final assessment results of the deep learning for processing the food picture, spectrum, text, and other details. In terms of effectiveness, we compared deep learning to other widely used methodologies and found that, in these evaluated studies, deep learning produces superior results to other approaches. This essay discussed crucial Food Recognition. According to the literature study, food recognition is aided by a number of active mechanisms. The researchers have successfully used a variety of strategies and algorithms to accomplish this goal.

5. Deep feature extraction technique based on Conv1D and LSTM network for food image recognition

Authors: Sirawan Phiphitphatphaisit, Olarik Surinta

Year: 2021

The ResNet50+Conv1D-LSTM network was suggested in this study for precise food image identification. The reliable spatial features were first extracted. Second, the Conv1D network linked with the long short-term memory (LSTM) network, known as Conv1D-LSTM, employed the robust characteristics as input data. The Conv1D-LSTM network's main job was to extract a temporal characteristic. The output of the Conv1D-LSTM was then converted into a probability distribution using the softmax algorithm.

6. Automatic Fruits Detection Using Artificial Intelligence

Authors: Tejswini Balpande, Nikita Dhothkar, Heena Satpute, Namrata Durbude

Year: 2020

In this study, we employ AI, which uses a camera to automatically determine the fruit's quality. The image can be scanned using a camera, after which image processing is carried out to identify the fruits' calories and other characteristics such as form, size, colour, and texture. In this study, image enhancement is the primary goal of image processing in order to reduce undesired noise and provide a better image. The camera's image is enhanced using image processing, which also identifies fruit characteristics like size, colour, and calories.

7. Enhancing Cloud and Big Data Systems for healthy Food and Nutrition Information Systems Practice: A Conceptual Study

Authors: P.K. Paul¹, P.S. Aithal², A. Bhuimali³

Year: 2019

This essay clarified the fundamentals of cloud computing, such as its fundamental attributes and functionalities. It also aided in our understanding of the primary difficulties associated with cloud computing and related technologies in the context of poor nations.

8. Mobile cloud based system recognizing nutrition and freshness of food image

Authors: [Diptee Kumbhar](#), [Sarita Patil](#)

Year: 2017

The framework presented in this research offers clients practical and clever methods that let them keep tabs on their calorie consumption and measure their food intake. Our system's food recognition method makes use of a cloud computing environment with classifier machine learning and a Naive Bayes training mechanism. Using image processing techniques, this device also verifies the fruit's freshness. The precision of the procedure used to measure calorie consumption is improved by this technology.

9. Dietary Nutrition Cloud Platform Technology Based on Big Data

Author: [Muhammad Jmail](#)

Year: 2021

In order to identify the relationship between dietary intake and disease, this paper analyses the characteristics of the food nutrition cloud platform, disease, and nutrition intake in great detail. It also identifies the drawbacks of the traditional association rule algorithm in the dietary nutrition cloud platform and suggests an improved immune algorithm based on clustering. The method can speed up association rule searches and can instantly locate the desired number of frequent item sets.