LITERATURE SURVEY ON

AI POWERED NUTRITION ANALYZER FOR FITNESS ENTHUSIASTS

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S.NO	TITTLE	AUTHOR	YEAR OF PUBLICATION	PROBLEM IDENTIFIED	TECHNIQUES USED	DRAWBACKS
1	Leveraging traditional crops for better nutrition and health	ShahalAbbo et.al.,	June 2017	Although poor feeding practices is a problem predominantly thought to exist in low-income and middle income countries, malnutrition is rapidly rising among developed nations as well.	In this context, and in light of scarcity of protein sources, utilization of crops-such as chickpea-as a source of micro and macro nutrients is mandatory in the long route to nutritional improvement.	For all these reasons, this crop should be considered as an outstanding source of protein, the ultimate alternative to soybeans, as well as the next health-food for human consumption. View at infona.pl
2	Machine learning and artificial intelligence based Diabetes Mellitus detection and self-management: A systematic review	Jyotismita Chaki et.al.,	Aug 2017	Diabetes Mellitus (DM) is a condition induced by unregulated diabetes that may lead to multi-organ failiure in patients	Machine learning, Artificial intelligence	There are two drawbacks to this study. First, only papers written between January 2015 and March 2020 have been included in this study. Second, it might be that the authors have overlooked certain valuable keywords and certain bibliographic sources that might have some relevant papers
3	The forthcoming Artificial Intelligence (AI) revolution: Its impact on society and firms	Spyros Makridakis	June 2017	Will the forthcoming AI revolution produce similar, far-reaching effects.	Artificial intelligence	The greatest challenge facing societies and firms would be utilizing the benefits of availing AI technologies, providing vast opportunities for both new products/services and immense productivity improvements while avoiding the dangers and disadvantages in terms of increased unemployment and greater

						wealth inequalities**.**
4	A Survery on Automated food Monitoring and Dietary Management System	Vieira Bruno	Aug 03 2017	In order to provide users feedback with nutritional information accompanied by insightful dietary advice, various techniques in light of the key computational learning principles have been explored.	smartphone and wearable sensor technologies	Recent advances in smartphone and wearable sensor technologies have led to a proliferation of food monitoring applications based on automated food image processing and eating episode detection, with the goal to conquer drawbacks of the traditional manual food journaling that is time consuming, inaccurate, underreporting, and low adherent.
5	A review on IoT based m-Health systems for diabetes	diabetesSankalp Deshkar	Jan 2017	Long-term diabetes care requires involvement from patients as well as doctors and family caregivers	Internet of things	Diabetes is a metabolic disease characterised by high blood glucose levels and inadequate or inefficient insulin. Blindness, renal failure, amputation, heart attacks, and stroke are among diabetic consequences. It is the leading cause of death in many developed countries. These new applications work and the underlying architecture, as well as the major challenges and issues they face.
6	Artificial intelligence for diabetes management and decision support	Ivan Contreras, Josep Vehi	Dec 2018	The objective of this paper is to review recent efforts to use artificial intelligence techniques to assist in the management of diabetes, along with the associated challenges.	Artificial intelligence	Our results indicate that artificial intelligence methods are being progressively established as suitable for use in clinical daily practice, as well as for the self-management of diabetes. Consequently, these methods provide powerful tools for improving patients' quality of life.
7	Food, microbiome and colorectal cancer	Lukas Niederreiter et.al.,	June 2018	This adage has been confirmed by many studies demonstrating	Various aspects are involved in colorectal carcinoma	It has only recently been recognized that the gut microbiota might reflect an

				the high impact of nutrition on risk of cardiovascular diseases, many malignancies and other diseases	pathogenesis including genetics, lifestyle, age, chronic inflammation and others	important missing link in the interaction between diet and subsequent
8	Recommendations to maintain immune health in athletes	Neil P Walsh et.al.,	Mar 2018	the prominent risk factors and appropriate countermeasures. Recent studies have identified prominent risk factors, including: intensified training in the winter; long-haul travel; low energy availability; high levels of ps	Both innate and acquired immunity are often reported to decrease transiently in the hours after heavy exertion, typically 15–70%: prolonged heavy training sessions in particular have been shown to decrease immune function; potentially providing an 'open window' for opportunistic infections.	The various challenges that athletes encounter on immune health, including: heavy exercise; life stress; sleep disruption; environmental extremes and nutritional deficits.
9	The role of diet in multiple sclerosis: A review	Sabrina Esposito et.al.,	July 2018	Since nutritional status and dietary habits in MS patients have not been extensively reported, the lack of a scientific-based consensus on dietary recommendation in MS could encourage many patients to experiment alternative dietetic regimens, increasing the risk of malnutrition.	gut-brain axis	The role of nutritional factors in MS pathogenesis is still **unclear**, and the effect of nutritional intervention on inflammatory status and wellness in patients with MS has not been associated with any dietary pattern.
10	Heavy metal exposure and nasal Staphylococcus	Shoshannah Eggers et.al.,	April 2018	Infection by methicillin-resistant Staphylococcus	The analytical sample consisted of 18,626	While further research is needed, reduction in heavy metal exposures such

	aureus colonization: analysis of the National Health and Nutrition Examination Survey (NHANES)			aureus (MRSA) is a major cause of global morbidity and mortality	participants aged 1 year and older. Multivariate logistic regression, including adjustment for demographic and dietary factors, was used to analyze the association between blood Pb and Cd, and nasal colonization by MRSA and MSSA.	as lead, concurrently with maintaining a healthy microbiota may be two modifiable options to consider in the fight against antibiotic-resistance.
11	High-performance medicine: the convergence of human and artificial intelligence	Eric J Topol	2019	In medicine, this is beginning to have an impact at three levels: for clinicians, predominantly via rapid, accurate image interpretation; for health systems, by improving workflow and the potential for reducing medical errors; and for patients, by enabling them to process their own data to promote health.	Deep learninig	Over time, marked improvements in accuracy, productivity, and workflow will likely be actualized, but whether that will be used to improve the patient–doctor relationship or facilitate its erosion remains to be seen.
12	eNutrition-The next dimension for eHealth?	Mike Boland,et.al.,	2019	An AI system, a personal virtual dietitian, can use this information to provide nutritional advice and alerts at the time of purchase and consumption of foods.	Rapid communication technology, inexpensive sensing devices and big data enable “eNutrition”	eNutrition has the potential to significantly lessen the public heath burden of non-communicable diseases such as hypertension, type 2 diabetes and allergic reactions to foods.
13	Precision	Murugan	2020	Aberrant	Deep	The

	medicine in the era of artificial intelligence: implications in chronic disease management	Subramanian		metabolism is the root cause of several serious health issues, creating a huge burden to health and leading to diminished life expectancy.	phenotyping; Exposome; Machine leaning;	implementation of high-performance computing (HPC) and artificial intelligence (AI) can predict risks with greater accuracy based on available multidimensional clinical and biological datasets.
14	The impact of artificial intelligence and digital style on industry and energy post-COVID-19 pandemic	Abbas Sharifi	2021	This crisis had many direct and indirect effects on all areas of society. In the meantime, the digital and artificial intelligence industry can be used as a professional assistant to manage and control the outbreak of the virus	video surveillance based on artificial intelligence and machine vision	• Technical limitations • Lack of support for ICT infrastructure • Platform errors • Socio-economic inequalities • GPS services • Security risks and privacy issues
15	The age of Artificial intelligence : Use of digital technology in clinical nutrition	Berkeley N	28 April 2021	Nutrition parenteral nutrition enteral nutrition digital health machine learning wearables	Mechanical learning	Patient not be wear continuously in full day
16	A systematic review of artificial chariots for promoting physical activity healty diet ,ND weight loss	Too Jung Oh hunger Zhang,et.al	11 December 2021	To check the effectiveness of Al nutrition intervention in changing physical, activity ,healthy, eating,weight management and other related health outcomes	Artificial intelligences chat box	Chat room are poor in making decisions unlike human beings
17	Food Image-based Nutritional Management System to	Rajdeep Kaur	2022	PCOS is an endocrine disorder that influences 8–10%	Deep Learning	Further, this study will also provide comprehensive review of image

	Overcome Polycystic Ovary Syndrome using DeepLearning: A Systematic Review			of women at their reproductive age and may cause infertility or other health problems		classification and recommendation techniques that may help the dieticians to track the nutrient intake using food images provided by PCOS patients to overcome the disease.
18	Artificial Intelligence (AI) and Internet of Medical Things (IoMT) Assisted Biomedical Systems for Intelligent Healthcare	Pandiyaraj Manickam,et.al.,	2022	human intervention in clinical diagnosis, medical imaging, and decision-making ability.	machine learning (ML), deep learning (DL), conventional neural networks, fuzzy logic, and speech recognition,internet of medical things	Artificial intelligence (AI) is a modern approach based on computer science that develops programs and algorithms to make devices intelligent and efficient for performing tasks that usually require skilled human intelligence.
19	**Towards Secure and Intelligent Internet of Health Things: A Survey of Enabling Technologies and Applications**	Umar Zaman,et.al.,	2022	The patient information is stored electronically, making it convenient to store and retrieve patient information remotely when needed. However, evolving the healthcare systems into smart healthcare environments comes with challenges and additional pressures	Internet of Health Things	The patient information is stored electronically, making it convenient to store and retrieve patient information remotely when needed. However, evolving the healthcare systems into smart healthcare environments comes with challenges and additional pressures. Internet of Things (IoT) connects things, such as computing devices, through wired or wireless mediums to form a network.