LITERATURE SURVEY

TOPIC :

AI – POWERED NUTRITION ANALYZER FOR FITNESS ENTHUSIAST

TEAM :

19IT053 – MALATHY G

19IT069 – PRIJITHA S

19IT104 – SRIVISHALI K

19IT106 – SUJATHA K

1)

TITLE : Artificial Intelligence in Nutrients Science

Authors : Magdalena Suchodolska , Jarosław Sak

Link : https://pdfs.semanticscholar.org/5c52/6d51fba02228122897518e6679b85067dc13.pdf

INTRODUCTION :

ABSTRACT :

The possibilities of artificial intelligence in the field of medical diagnostics, risk prediction and support of therapeutic techniques are growing rapidly. The aim of the article is to analyze the current use of AI in nutrients science research. It was found that the artificial neural network (ANN) methodology was dominant in the group of research on food composition study and production of nutrients. However, machine learning (ML) algorithms were widely used in studies on the influence of nutrients on the functioning of the human body in health and disease and in studies on the gut microbiota

METHODS AND

In the area of biomedical nutrients research, there were identified studies in which advanced AI methods and systems were applied in relation to the study of the composition offood products, optimization of nutrient production, the effects of nutrients on the functioningof the human body in health and disease and research on the gut microbiota.

TOPIC	NUTRIENTS	DOMAIN	ALGORITHMS
Food composition	Proteins, Minerals (K, Ca, Mg), Trace elements	ANN, ML	SVM, LS-SVM, SVR, GA-RBFN, PLS, GA-PLS, KohNN, LASSO, CLAs
Production of nutrients	Retinol, Benzoquinones, Phycobiliproteins	ANN, FLM	LM, GA, ANN-GAR, FFD, GA-Fuzzy
Influence of nutrients on phys./path. functions	Proteins, Vitamins (A,B,C,D,K)	ANN, FLM, ML	SVM, BN, NB, RF, CLAs
Gut microbiota	Nutrients from food	ML, NV	SVM, kNN, RF, CLAs

According to graphical characteristics of the analyzed works , the ANN methodology dominated both in food composition study and the production of nutrients. Among the works on the influence of nutrients on the functioning of the human body in health and disease and studies on the gut microbiota, ML domain algorithms were used almost exclusively. The fuzzy logic methodology was used occasionally.

RESULTS :

The use of AI in biomedical nutrients research reflects the need for efficient analysis of large datasets that could not be analyzed using traditional statistical methods. This applies in particular to the study of the relationship between nutrients and the functioning of the human body and in the study of the gut microbiota

2) Title : The Intention to Use Fitness and Physical Activity Apps: A Systematic Review

Authors : Salvador Angosto , Jeronimo Garcia-Fernandez , Irena Valantine and Moises Grimaldi-Puyana

Link : https://www.mdpi.com/2071-1050/12/16/6641/pdf

The aim of this study is to perform a systematic review of the literature on the intention to use mobile applications (Apps) related to fitness and physical activity by consumers. This systematic review is a critical evaluation of the evidence from quantitative studies in the field of assessment of consumer behavior towards sport applications . The continuous technological advances have awakened the interest of marketing researchers in the intention to use Apps, especially in the field of sports. Walter [64] explained the existence of a trend towards increased interest by fitness consumers in using Apps for exercise control. Therefore, the aim of this study was to conduct a systematic review of the literature on consumers' intention to use Apps related to fitness and physical activity.