

Trends in the food and sports nutrition industry:

Authors: Marta Arenas, Encarta Garcia –Montoya

Published on : 2019

This revision intends to provide an overview on the major and emerging trends in food and nutrition. Food scientists and dietitians should keep an eye on the trends shaping the food industry in order to understand consumer changes in preferences, expectations and dietary patterns; and to identify those areas that should be added to the research agenda. In addition, to comprehend the major drivers of change in the food industry, global consumer trends are also reviewed in this article. Global concerns are shaping consumer attitudes, and with an easier access to information and an unprecedented consumer power through social media, the food industry should quickly adapt to meet consumer needs. In order to meet these objectives, this review is organized in three different but interrelated sections: global consumer trends, food and nutrition trends, and trends in sports foods and nutrition. This last one is also included due to its influence over food trends, and its significant relevance as a category and food trend.

Analysis of Convolution Neural Networks on Indian food detection and estimation of calories

Author : Suriyakrishnan,Pavithra

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Indian Cuisine has a peculiar aroma and flavour distinct from other cuisines. On the other hand, Obesity, Diabetes, and Hypercholesterolemia are severe problems in the Republic of India. This research aims to develop and analyze a Deep Learning model based on OpenCV for identifying Indian cuisine and determining their calories. Indian Cuisine dataset was built by extracting images from the internet and preprocessing them to fine quality. From the dataset, the classification of Indian Cuisine was done by Convolutional Neural Network, and with the help of image processing techniques, calories of the classified food were calculated. After an enormous amount of analysis, the developed model detects Indian food cuisine with an accuracy of 99.19% on training data and 95.30% on testing data; also, the estimation of calories was the accuracy with an error variation of ± 10 calories to the actual food.

Determination of Recipe by Analysis of Various Ingredients

Authors: C. Nandini, A. Choudhury, A. N. Shreyas

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Consumption of junk food can hold extreme levels of type of fatty acid, instance. At the same time, it concedes possibility have little digestive content in conditions of vitamins, mineral and fiber. Junk food consistently holds unsound preservatives and additional chemical compound. Sometimes family use junk food as equivalent accompanying inexpensive food prepared and served quickly. Unhealthful food frequently holds preservatives and flavorings that have an unfavorable effect on our fitness. According to the current mathematical studies, on an average about individual in four family eat inexpensive food prepared and served quickly per epoch. As orderly devouring of inexpensive food prepared and served quickly is sick, our model is delineated to benefit the children to entertain in style themselves, in their active-due often growth. To overcome these above issues, we need to evolve a structure that will smart to find the Recipe in which the additives captured as recommendation, is analyzed by way of dataset and the appropriate platters is urged to the consumer. In projected whole we are requesting Machine Learning Algorithm search out analyze the dataset, Ingredients are Determination of Recipe by Analysis of Various Ingredients likely in the form of manual or a countenance. It uses Image Processing method to recognize the pieces likely as a figure recommendation.

The New Encyclopedia of Nutrition: A Reality after COVID-19

Author: Sima Hamadeh

Published on :2021

COVID-19 world pandemic has a huge impact on global development, peoples' lifestyles, and the future of nutrition. The aim of this research is to illustrate a holistic picture of nutrition (food and sports) trends and projections after COVID-19 along with the drivers largely responsible for these observed trends. A narrative review of literature covering nutrition treated fields during COVID-19 was collected from different sources including PubMed. A content analysis of the collected data helped to illustrate an

innovative model to approach the reality of a second nutrition transition “SNT” during and after COVID19. Results showed that populations are experiencing a new relation with nutrition and healthy lifestyles in general, and with food and sports for family and mood in particular. Food security and food safety matters have increased as consequences of rising people immunity and fighting deaths. E-sports is also a growing field for overall human wellbeing during quarantine. The diverse nature of this SNT may be the result of several factors such as health, economic, and sociocultural factors, and consumer characteristics. Moreover, countries’ profiles, built environments and architectural styles have implications for health by virtue of being factors in facilitating the SNT that is associated with changing lifestyles and affecting human wellbeing. The author concluded that a new encyclopedia of nutrition involving integrated nutrition issues such as e-commerce for food and beverages, online sports competitions is a reality for suitable understanding of food and sports consumerism trends and projections worldwide. Future food, sports and nutrition policies must consider multidisciplinary sectors, thereby enabling the development of coherent and sustainable strategies that will ultimately benefit food chain, public health and the globe. **Keywords:** COVID-19; Digitalized Food Systems; E-food commerce; E-sports; Nutrition Economics; Nutrition Encyclopedia; Public Health Nutrition; Second Nutrition Transition

Fitness Apps's purchase behavior: Amalgamation of Stimulus-Organism-Behaviour-Consequence framework (S-O-B-C) and the innovation resistance theory (IRT)

Author : Chakra borty Hari , Babu Sing

Published on :2019

With the rise in popularity and use of fitness apps, more research is needed to learn more about how people use the apps so that they keep using them. Stimulus-Organism-Behaviour-Consequence framework (S-O-B-C) and the Innovation Resistance Theory (IRT) together in this study to learn more about how people make decisions about how to use apps for fitness. Eight hundred and fifty-eight users of various fitness apps have responded to the questionnaire. Results show that people who are open to changing their fitness systems from traditional to app-based services enjoy new experiences and new product behaviours. For them, the perceived functional barriers to service adoption don't hold them back. At the same time the users of fitness apps try to get health and fitness information from as many sources as possible, like friends, peer groups, the newspaper and social networking apps. Users with a high level of health consciousness are more

likely to be active in their health and fitness. People who use apps make decisions based on new information from the integrated model. App providers should think about how to get and keep users interested in their apps, personalise their experience, and design features that make users invested in the apps.

How do trendy diets emerge? An exploratory social media study on the low-carbohydrate diet in Finland

Authors:Mikko JauhoORCID Icon,Juho Pääkkönen

Published on :2017

Various trendy diets characterize the foodscape today. This paper focuses on the low-carbohydrate (LC) diet, which gained large publicity in Finland in late 2010, affecting eating habits and food sales. In order to understand the factors affecting its emergence, we turned to the internet because it is a key environment where enthusiasts meet and new phenomena are forged. By analyzing the prevalence of keywords on carbohydrate-conscious eating in a database of over one billion social media messages in 2001–17, we found two peaks of activity – in 2002–07 and 2011–13. We then used innovative computational text-mining methods to compare the language about the LC diet in the two peaks to seek an explanation for why it became trendy in Finland only in 2011. While the key semantic fields remained roughly the same between the two peak periods on a general level, when the granularity of the model was increased, differences between individual cluster communities were detected that attest to the growing importance and mainstreaming of the diet. The results and the presented method are significant to public health and food industry actors, who want to track emerging food phenomena in the current fast-moving media environment.

Modern India and Dietary Calcium Deficiency—Half a Century Nutrition Data—Retrospect–Introspect and the Road Ahead

Authors:Chittari Venkata Harinarayan, Harinarayan

Published on :2021

Calcium and vitamin D are inseparable nutrients required for bone health. In the past half a century, the dietary calcium intake of rural, tribal, and urban India has declined. Though

India is the largest producer of milk and cereals, the major source of calcium in India is through non-dairy products. The highest intake of cereals and lowest intake of milk & milk products was observed in rural and tribal subjects whereas, the intake of cereals, milk & milk products were similar in both urban and metropolitan subjects. One of the reasons for lower calcium intake was the proportion of calcium derived from dairy sources. Over the past half a century, the average 30-day consumption of cereals in the rural and urban population has declined by 30%. The Per Capita Cereal Consumption (PCCC) has declined despite sustained raise in Monthly Per capita Consumption Expenditure (MPCE) in both rural and urban households.

Information System for Monitoring Personal Health Status Based on Big Data Analysis Authors: Bohdan Oheruk and Roman Peleshchak

Published on : 2019

This paper describes and develops an information system for health monitoring, which is implemented as an application for showed that now this problem is more relevant than ever because humanity has taken a big step away from industrial society where people have led an active life because in the digital age where most people stop moving and increasingly sit in the office and lead a sedentary lifestyle. As part of this work, a systematic analysis of the project was conducted in which the basic architecture of the application for a smartphone based on client-server architecture was developed. UML diagrams of classes, use cases, sequence diagrams, components, and activity diagrams were created, allowing us to investigate the designed system in section and describe the procedure more detail before development. A goal tree was also built, which answered the question of what type of system is being developed. The plan was decomposed from which more detailed aspects of it became clear. The analysis became clear on organising the Internet through a global network for further use and integration into the system. A graphical interface has also been developed for the user to interact with the system via the Internet to access and monitor user health data from anywhere globally. The system is based on parameters set by the user, such as height, weight, the purpose of the system, age, number of calories that the user wants to consume, number of calories that the user wants to burn, etc. Similar systems from global manufacturers were also analysed. It became clear that many well-known companies were developing their solutions in this direction, as health monitoring and control is an essential aspect of human life.

Artificial Intelligence : Artificial Intelligence in Sports

Authors:Pottala, Matias (2018)

Published on :2018

The aim of the study was to narrate what artificial intelligence is and how it can be utilized in today's world. This thesis contains the results of qualitative article analysis and literature reviews done about artificial intelligence and artificial intelligence in sports. The theoretical framework of the thesis discussed the past, present and future of artificial intelligence. In the thesis artificial intelligence was also studied from the economic point of view, looking more closely on investments and the global leaders now and in the future. What kind of an impact will artificial intelligence have in the society is discussed more precisely when studying the possible threats and opportunities of artificial intelligence.

Prosumer-Driven 3D Food Printing: Role of Digital Platforms in Future 3D Food Printing Systems

**Author :Siddharth jayaprakashlnigo Floresltuarte
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Published on :2019

Digital platforms have become an integral part of user experience innovation in a short period of time. When coupled with innovative production technologies like 3D printing, these platforms facilitate prosumption (production by consumers). Prosumption is very much anticipated in the food sector, especially after the emergence of 3D food printing technology. The goal of this chapter is to create an understanding on how digital platforms could work together with future 3D food printing systems to foster food prosumption. An extensive literature review was conducted for comprehending the concept of prosumption and the state of the art of 3D food printing. After the literature review, 15 semistructured interviews were carried out in four countries, with experts from both academia and industry. These interviews have helped in creating knowledge on the change drivers for prosumer-driven 3D food printing, nature of the prosumer platform, future of food, and the potential use cases for prosumer-driven 3D food printing systems. Overall, the qualitative research data implies that leveraging 3D food printing technology and digital platforms would generate value chains that are transparent, data driven, connected, collaborative, and sustainable.

Food Image Recognition via Deep Learning for Smart Food Logging

Authors: Doyen Sahoo

Published on :2019

An important aspect of health monitoring is effective logging of food consumption. This can help management of diet-related diseases like obesity, diabetes, and even cardiovascular diseases. Moreover, food logging can help fitness enthusiasts, and people who wanting to achieve a target weight. However, food-logging is cumbersome, and requires not only taking additional effort to note down the food item consumed regularly, but also sufficient knowledge of the food item consumed (which is difficult due to the availability of a wide variety of cuisines). With increasing reliance on smart devices, we exploit the convenience offered through the use of smart phones and propose a smart-food logging system: FoodAI, which offers state-of-the-art deep-learning based image recognition capabilities. FoodAI has been developed in Singapore and is particularly focused on food items commonly consumed in Singapore. FoodAI models were trained on a corpus of 400,000 food images from 756 different classes.

In this paper we present extensive analysis and insights into the development of this system. FoodAI has been deployed as an API service and is one of the components powering Healthy 365, a mobile app developed by Singapore's Heath Promotion Board. We have over 100 registered organizations (universities, companies, start-ups) subscribing to this service and actively receive several API requests a day. FoodAI has made food logging convenient, aiding smart consumption and a healthy lifestyle.

Computational intelligence in sports: challenges and opportunities within a new research domain

Authors:Iztok Fister Jr, Iztok Fister

Published on :2019

Computational intelligence is a branch of artificial intelligence that comprises algorithms inspired by nature. The common characteristics of all these algorithms is their collective intelligence and adaptability to a changing environment. Due to their efficiency and simplicity, these algorithms have been employed for problem solving across social and

natural sciences. The aim of this paper is to demonstrate that nature-inspired algorithms are also useful within the domain of sport, in particular for obtaining safe and effective training plans targeting various aspects of performance. We outline the benefits and opportunities of applying computational intelligence in sports, and we also comment on the pitfalls and challenges for the future development of this emerging research domain.

WORLDWIDE SURVEY OF FITNESS TRENDS

Authors:Thompson, Walter R, FACSM

Published on :2019

The annual ACSM's Health & Fitness Journal® worldwide survey to determine industry trends by health fitness professionals is now in its 13th consecutive year. Strength training (the #5 trend in 2018) was dropped from this year's survey because it was determined to be too generic. In previous surveys, educated, certified, and experienced fitness professionals that was a top performing trend (#1 in 2008–2013 and in the top 10 in every survey) also was dropped from the survey because it was too broad and lacked the necessary specificity. Employing certified fitness professionals was added as a potential new trend for 2019 and was rated #6. Wearable technology regained the #1 trend after dropping to #3 in 2018. Group training (more than five participants) was rated #2, which is the spot it held in 2018. Last year's #1 trend, high-intensity interval training, dropped to #3 for 2019. Regaining spots in the top 20 fitness trends include mobile exercise devices (#13), worksite health promotion and workplace well-being programs (#15), outcome measurements (#16), and postrehabilitation classes (#20). Dropping out of the top 20 fitness trends include circuit weight training, sport-specific training, and core training. Four international experts independently commented on the results.

Apply It!

From this article, the reader should understand the following concepts: Articulate the differences between a fad and a trend. Use the worldwide trends in the commercial, corporate, clinical (including medical fitness), and community health fitness industry to further promote physical activity. Study expert opinions about identified fitness trends for 2019.

Understanding personal health and fitness activity

Author :Rannie Teodoro, Mor Naaman

Published on :2022

With the growing interest in how online sedentary activity can mediate offline health practices, we present a study of social media activity related to personal health and fitness. We aim to identify the type of content and motivations for sharing health-related activity in social media outlets. To this end, we performed a qualitative analysis of Twitter posts, as well as an extensive set of interviews with experienced users who post messages on Twitter about exercise, diet, and weight loss activities. The qualitative analysis exposes varying levels of activity actualization and message sentiment. The interviews help us reason about the users practices and motivations for posting activity related to the pursuit and maintenance of volitional health behaviors. Our findings extend existing theoretical frameworks and can inform the design of technology that uses social media to help initiate and maintain challenging activities like exercise and diet.

Nutrition in exercise and sport

Author:Ira Wolinsky

Published on :2022

The third edition of Nutrition in Exercise and Sport has been updated and expanded to include the latest developments in the field. This third edition of a bestseller among sports nutrition and health professionals now fully discusses the role of exercise and nutrition in both wellness and in disease prevention. In addition, new chapters on the history of sports nutrition, antioxidants, vegetarianism, the young athlete, the older athlete, the diabetic athlete, the physically disabled athlete, sports specific nutrient requirements, and body composition changes have been added. Top sports nutrition practitioners and exercise scientists have contributed chapters that provide practical nutritional guidelines for those engaged in various types of physical performance. This book is a one-volume library on sports nutrition for research scientists in applied sports nutrition, dietitians, exercise physiologists, sports medicine physicians, coaches, trainers, athletes, and nutritionists. The first two editions of this book have been widely used in sports nutrition courses. Nutrition in Exercise and Sport is the standard in the field.

Fitness, technology

Author:Brad Millington.

Published on :2017

The fitness industry is experiencing a new boom characterized by the proliferation of interactive and customizable technology, from exercise-themed video games to smartphone apps to wearable fitness trackers. This new technology presents the possibility of boundless self-tracking, generating highly personalized data for self-assessment and for sharing among friends. While this may be beneficial – for example, in encouraging physical activity – the new fitness boom also raises important questions about the very nature of our relationship with technology. This is the first book to examine these questions through a critical scholarly lens. Addressing key themes such as consumer experience, gamification, and surveillance, *Fitness, Technology and Society* argues that fitness technologies – by ‘datafying’ the body and daily experience – are turning fitness into a constant pursuit. The book explores the origins of contemporary fitness technologies, considers their implications for consumers, producers, and for society in general, and reflects on what they suggest about the future of fitness experience.

Agriculture and Food Analysis

Author: Marco Grossi

Published on :2019

The continuous advance in sensors and sensing systems has a strong impact in agriculture and food production.

Food is routinely screened to assess quality (such as physical appearance and organoleptic properties) and safety (absence of health threatening pathogens and chemical compounds). These tests are usually carried out in laboratory by skilled personnel, thus resulting in delayed response and high costs for the analysis. On the other hand, the availability of transduction techniques (such as electrical impedance spectroscopy, visible and near-infrared optical spectroscopy, fluorescence spectroscopy, and image processing) allows the design of low-cost embedded sensor systems for quick in-the-field analysis with benefits in terms of lower cost, shorter time response, and, in the end, more frequent screening and improved product quality

The science and culture of nutrition,

Author: Harmke Kamminga, Andrew Cunningham Rodopi,

Published on :2015

Modern nutrition science is usually considered to have started in the 1840s, a period of great social and political turmoil in western Europe. Yet the relations between the production of scientific knowledge about nutrition and the social and political valuations that have entered into the promotion and application of nutritional research have not yet received systematic historical attention. *The Science and Culture of Nutrition, 1840-1940* for the first time looks at the ways in which scientific theories and investigations of nutrition have made their impact on a range of social practices and ideologies, and how these in turn have shaped the priorities and practices of the science of nutrition. In these reciprocal interactions, nutrition science has affected medical practice, government policy, science funding, and popular thinking. In uniting major scientific and cultural themes, the twelve contributions in this book show how Western society became a nutrition culture.

A high-fat diet and resistance exercise.

Author: DM, Burniston, JG, Pogson, MA, Smiles, WJ and Hawley, JA

Published on :2017

It is generally accepted that muscle adaptation to resistance exercise (REX) training is underpinned by contraction-induced, increased rates of protein synthesis and dietary protein availability. By using dynamic proteome profiling (DPP), we investigated the contribution of both synthesis and breakdown to changes in abundance on a protein-by-protein basis in human skeletal muscle. Age-matched, overweight males consumed 9 d of a high-fat, low-carbohydrate diet during which time they either undertook 3 sessions of REX or performed no exercise. Precursor enrichment and the rate of incorporation of deuterium oxide into newly synthesized muscle proteins were determined by mass spectrometry. Ninety proteins were included in the DPP, with 28 proteins exhibiting significant responses to REX. The most common pattern of response was an increase in turnover, followed by an increase in abundance with no detectable increase in protein synthesis. Here, we provide novel evidence that demonstrates that the contribution of synthesis and breakdown to changes in protein abundance induced by REX differ on a protein-by-protein basis. We also highlight the importance of the degradation of individual muscle proteins after exercise in human skeletal muscle.-Camera, D. M.,

Burniston, J. G., Pogson, M. A., Smiles, W. J., Hawley, J. A. Dynamic proteome profiling of individual proteins in human skeletal muscle after a high-fat diet and resistance exercise.

My health apps: Discover users' perception of health and fitness apps

Authors: Shupey Yuan, Wenjuan Ma, Shaheen Kanthawala, Wei Peng

Published on :2015

Health and fitness applications (apps) are one of the major app categories in the current mobile app market. Few studies have examined this area from the users' perspective. This study adopted the Extended Unified Theory of Acceptance and Use of Technology (UTAUT2) Model to examine the predictors of the users' intention to adopt health and fitness apps. Materials and Methods: A survey (n=317) was conducted with college-aged smartphone users at a Midwestern university in the United States. Results: Performance expectancy, hedonic motivations, price value, and habit were significant predictors of users' intention of continued usage of health and fitness apps. However, effort expectancy, social influence, and facilitating conditions were not found to predict users' intention of continued usage of health and fitness apps. Conclusions: This study extends the UTATU2 Model to the mobile apps domain and provides health professions, app designers, and marketers with the insights of user experience in terms of continuously using health and fitness apps.

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