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2019年2月4日

前沿资讯

1 .Agriculture Goes Digital: Smart solutions for Future Farming（农业数字化：未来农业的智能解决方案）

简介：Foteini Zampati, GODAN's Data Rights Research Specialist, attended the Global Forum for Food and Agriculture (GFFA) conference in Berlin, 17-19 January, 2019, on behalf of the Secretariat. The Forum was hosted by the German Federal Ministry of Food and Agriculture (BMEL) in co-operation with the Berlin Senate, Messe Berlin and GFFE Berlin e.V. The GFFA is a high-level, international conference, which gives representatives from the world of politics, business and civil society, an opportunity to share experiences, exchange ideas and enhance understanding around topics of current agricultural policy within the context of food security.

来源：全球农业与营养开放数据网（GODAN）

发布日期:2019-01-29

全文链接:https://www.godan.info/news/agriculture-goes-digital-smart-solutions-future-farming

2 .Weather at key growth stages predicts Midwest corn yield and grain quality, study says（研究显示，关键生长阶段的天气能够预测美国中西部玉米产量和谷物质量）

简介：美国每年要种植约9000万英亩的玉米，根据这些种植数据政府机构要在玉米收获后数月才能分析总产量和质量。现在，科学家们正努力缩短这个运算周期，争取在种植季中期就能对季末的产量做出预测。伊利诺伊大学目前正在进行一项研究，采用新开发的算法，通过分析玉米发育过程中三个重要阶段的天气情况，预测季节末期的产量和营养成分，包括籽粒中淀粉、油、蛋白质的比例。重要的是，无论玉米基因型是什么或种植方式如何，美国整个中西部玉米作物都适用于该预测算法。

来源：EurekAlert

发布日期:2019-01-29

全文链接:https://www.eurekalert.org/pub_releases/2019-01/uoic-wak012919.php

学术文献

1．An Overview of Internet of Things (IoT) and Data Analytics in Agriculture: Benefits and Challenges（农业物联网（IoT）和数据分析概述：优势与挑战）

简介：The surge in global population is compelling a shift toward smart agriculture practices. This coupled with the diminishing natural resources, limited availability of arable land, increase in unpredictable weather conditions makes food security a major concern for most countries. As a result, the use of Internet of Things (IoT) and data analytics (DA) are employed to enhance the operational efficiency and productivity in the agriculture sector.

There is a paradigm shift from use of wireless sensor network (WSN) as a major driver of smart agriculture to the use of IoT and DA. The IoT integrates several existing technologies, such as WSN, radio frequency identification, cloud computing, middleware systems, and end-user applications. In this paper, several benefits and challenges of IoT have been identified. We present the IoT ecosystem and how the combination of IoT and DA is enabling smart agriculture. Furthermore, we provide future trends and opportunities which are categorized into technological innovations, application scenarios, business, and marketability.

来源： IEEE Internet of Things Journal

发布日期: 2018-10

全文链接: http://agri.ckcest.cn/file1/M00/06/5D/CsgkOFxRMByAXOaZABuAKZavt6c300.pdf

2 .Computer vision and artificial intelligence in precision agriculture for grain crops: A systematic review（谷物精准农业的计算机视觉与人工智能：综合评价）

简介： Grain production plays an important role in the global economy. In this sense, the demand for efficient and safe methods of food production is increasing. Information Technology is one of the tools to that end. Among the available tools, we highlight computer vision solutions combined with artificial intelligence algorithms that achieved important results in the detection of patterns in images. In this context, this work presents a systematic review that aims to identify the applicability of computer vision in precision agriculture for the production of the five most produced grains in the world: maize, rice, wheat, soybean, and barley. In this sense, we present 25 papers selected in the last five years with different approaches to treat aspects related to disease detection, grain quality, and phenotyping. From the results of the systematic review, it is possible to identify great opportunities, such as the exploitation of GPU (Graphics Processing Unit) and advanced artificial intelligence techniques, such as DBN (Deep Belief Networks) in the construction of robust methods of computer vision applied to precision agriculture.

来源： Computers and Electronics in Agriculture

发布日期: 2018-08-09

全文链接: http://agri.ckcest.cn/file1/M00/06/5D/CsgkOFxRMPiAQXkCAAU9sSVd4ng617.pdf

科技报告

1 . GIS in Sustainable Urban Planning and Management: a Global Perspective（GIS在可持续城市规划和管理中的作用：全球视角分析）

简介： GIS is used today to better understand and solve urban problems. GIS in Sustainable Urban Planning and Management: A Global Perspective, explores and illustrates the capacity that geo-information and GIS have to inform practitioners and other participants in

the processes of the planning and management of urban regions. The first part of the book addresses the concept of sustainable urban development, its different frameworks, the many ways of measuring sustainability, and its value in the urban policy arena. The second part discusses how urban planning can shape our cities, examines various spatial configurations of cities, the spread of activities, and the demands placed on different functions to achieve the strategic objective. It further focuses on the recognition that urban dwellers are increasingly under threat from natural hazards and climate change.

来源：国际地理信息科学与地球观测学院（ITC）
发布日期:2019-01-15
全文链接:http://agri.ckcest.cn/file1/M00/06/5D/CsgkOFxRL62AJ-f9AGsnyjloSeA073.pdf