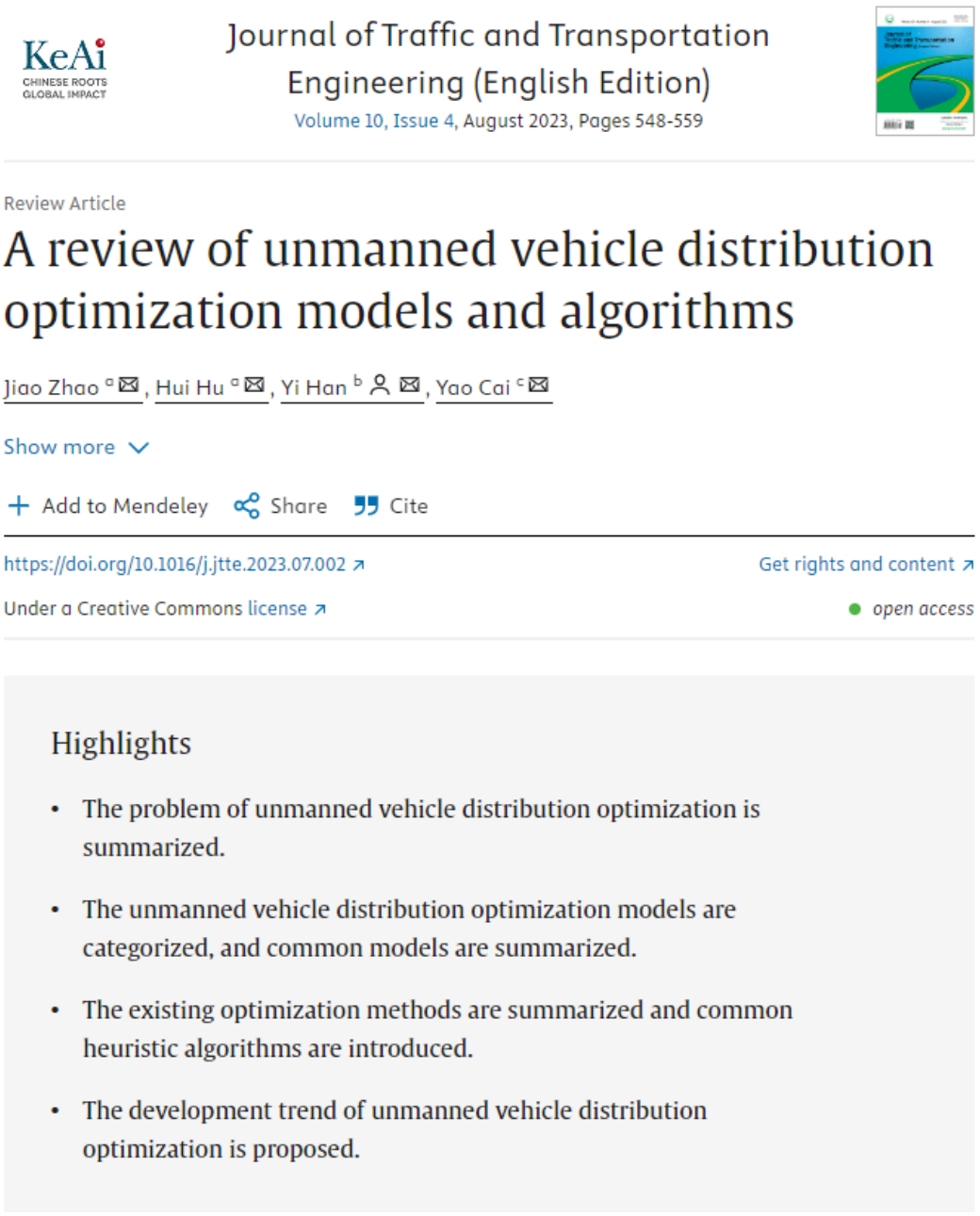
Unmanned automobiles:

[A review of unmanned vehicle distribution optimization models and algorithms - ScienceDirect]



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Journal of Traffic and Transportation Engineering (English Edition)
Volume 10, Issue 4, August 2023, Pages 548-559

Review Article

A review of unmanned vehicle distribution optimization models and algorithms

Jiao Zhao [a], Hui Hu [a], Yi Han [b], Yao Cai [c]

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Highlights

- The problem of unmanned vehicle distribution optimization is summarized.
- The unmanned vehicle distribution optimization models are categorized, and common models are summarized.
- The existing optimization methods are summarized and common heuristic algorithms are introduced.
- The development trend of unmanned vehicle distribution optimization is proposed.

[An unmanned emergency blood dispatch system based on an early prediction and fast delivery strategy: Design and development study - ScienceDirect]

An unmanned emergency blood dispatch system based on an early prediction and fast delivery strategy: Design and development study

Jing Xia [a 1], Qiang Li [b 1], Yu Tian [c 1], Yinghao Zhao [a], Zhuyi Shen [c], Tianshu Zhou [a], Jingsong Li [a c]

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https://doi.org/10.1016/j.cmpb.2023.107512

Highlights

- An unmanned emergency blood dispatch system was designed for the fast delivery of blood resources and rapid emergency response to trauma events. Unmanned aerial vehicles (UAVs) and an early prediction model were introduced in the emergency medical services for trauma patients.
- Through the combination of an emergency transfusion prediction model and UAV-related dispatch algorithms, the proposed system improves first aid efficiency and quality for major hemorrhagic patients in both urban and rural scenarios.
- With the assistance of the system, emergency doctors at the injury scene can make decisions based on the comprehensive analysis of patients' status and the surrounding rescue conditions, especially when encountering mass casualties or casualties in remote areas.

[Implementation analysis of reliable unmanned aerial vehicles models for security against cyber-crimes: Attacks, tracebacks, forensics and solutions - ScienceDirect]

Implementation analysis of reliable unmanned aerial vehicles models for security against cyber-crimes: Attacks, tracebacks, forensics and solutions

Hemaid Alsulami

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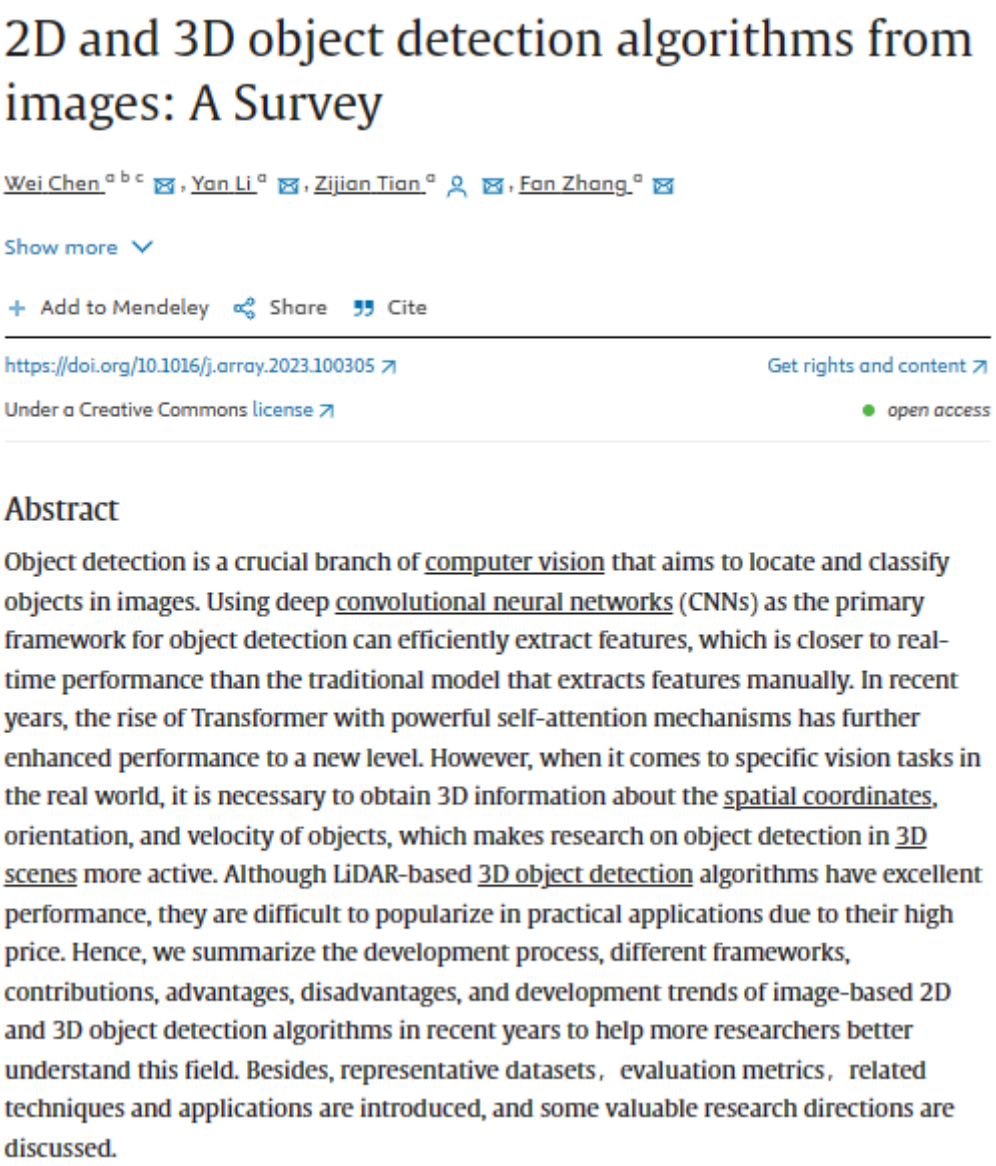
Abstract

This paper focuses on the major challenges that organizations and sectors face, such as cyber-attacks and crimes. With the advancement of technology for applications and services in businesses, homes, healthcare, and other areas, there has been an increase in cyber-crime. The quality and security of information have been compromised as a result of the attacks, and space optimization of these applications and services has become more challenging as a result of the migration to Unmanned Aerial Vehicles (UAVs). The UAVs are gaining popularity to provide civilian and military applications, but due to the current Internet environment, it is more vulnerable to malicious attacks. Forensics is the practice of gathering evidence to identify attacks. Cyber forensics collects evidence from cyber-attacks. Digital footprints are particularly significant in cyber forensics. UAVs contain real-time data, and users access it directly, exposing the solution to cyber-attacks. This study focuses on the function of UAVs in various applications and the issues faced in terms of cyber security and privacy. The current research also examines several security models for controlling quality and reliability in UAV applications, with the results discussed. The current research describes future challenges and research

Object detection:

[2D and 3D object detection algorithms from images: A Survey - ScienceDirect]



2D and 3D object detection algorithms from images: A Survey

Wei Chen [a b c], Yan Li [a], Zijian Tian [a], Fan Zhang [a]

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Abstract

Object detection is a crucial branch of computer vision that aims to locate and classify objects in images. Using deep convolutional neural networks (CNNs) as the primary framework for object detection can efficiently extract features, which is closer to real-time performance than the traditional model that extracts features manually. In recent years, the rise of Transformer with powerful self-attention mechanisms has further enhanced performance to a new level. However, when it comes to specific vision tasks in the real world, it is necessary to obtain 3D information about the spatial coordinates, orientation, and velocity of objects, which makes research on object detection in 3D scenes more active. Although LiDAR-based 3D object detection algorithms have excellent performance, they are difficult to popularize in practical applications due to their high price. Hence, we summarize the development process, different frameworks, contributions, advantages, disadvantages, and development trends of image-based 2D and 3D object detection algorithms in recent years to help more researchers better understand this field. Besides, representative datasets, evaluation metrics, related techniques and applications are introduced, and some valuable research directions are discussed.

Autopilots:

A computer-based mapping approach for evaluating straight-line accuracy of autopilot tractor traversing the oil palm field terrain - ScienceDirect

A computer-based mapping approach for evaluating straight-line accuracy of autopilot tractor traversing the oil palm field terrain

Mohammad Anas Azmi, Rohaida Mohammad, Darius El Pebrian

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Highlights

- It is a new approach that brings a simple sequence of information analysis procedures in evaluating the straight-line accuracy of an autopilot tractor traversing the oil palm field terrain.
- It is suitable for the users or farmers who are not that familiarized with the terms in the advanced algorithms and geometry concept.
- Having a great potential to enrich the methods in evaluation of the straight-line accuracy of autopilot tractor in agricultural operation.

Abstract

Many methods have been introduced to evaluate straight-line accuracy of autopilot pilot tractor while moving across the farm field. This study presents a new alternative approach for evaluating straight-line accuracy of an autopilot tractor traversing the oil palm field terrain. A combination of mapping and spreadsheet software was utilized to

Jiao Zhao

Zhao, Jiao – Author details – Scopus Preview

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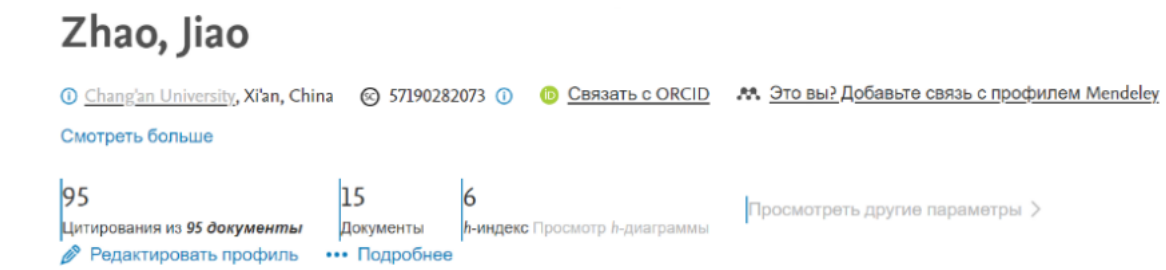

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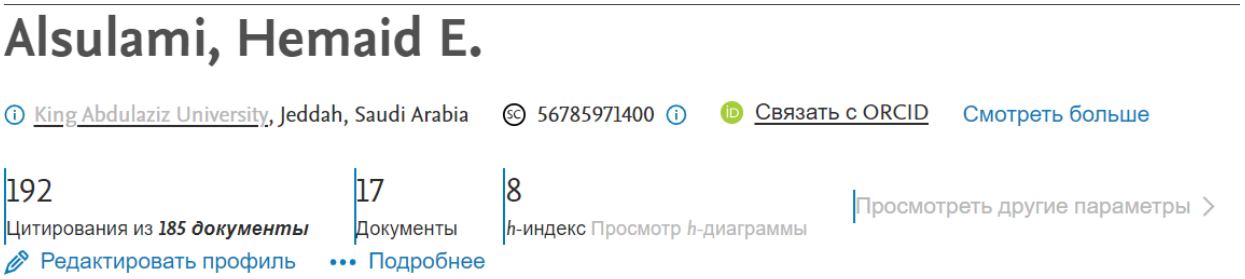

Jing Xia:

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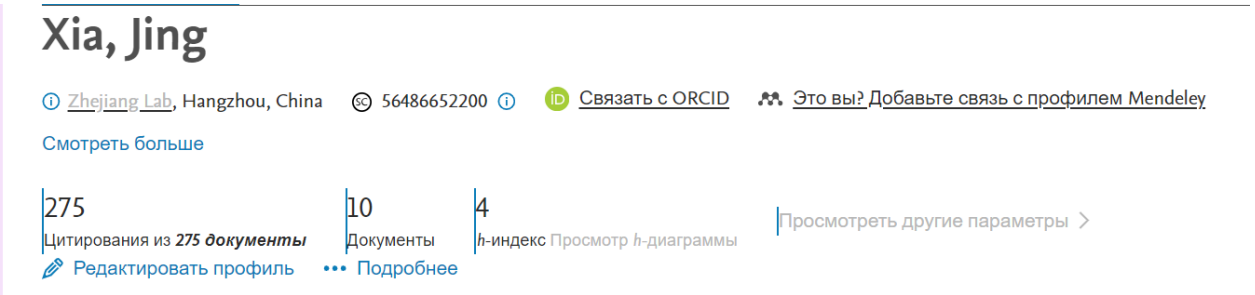

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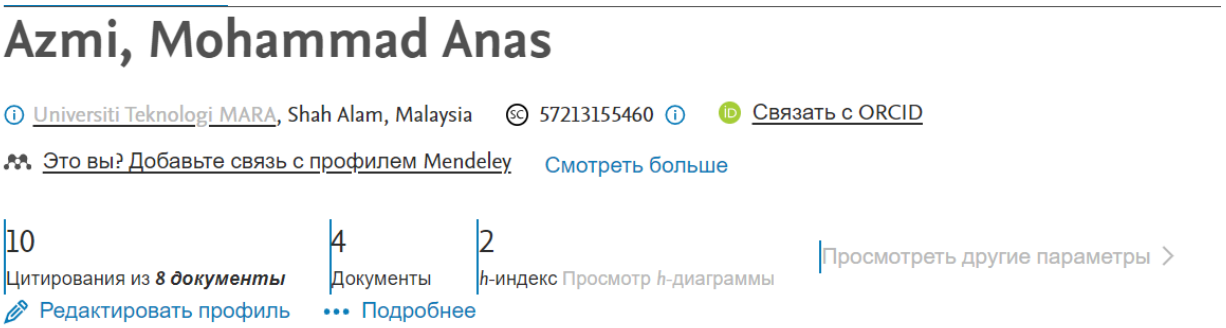

Wei Chen

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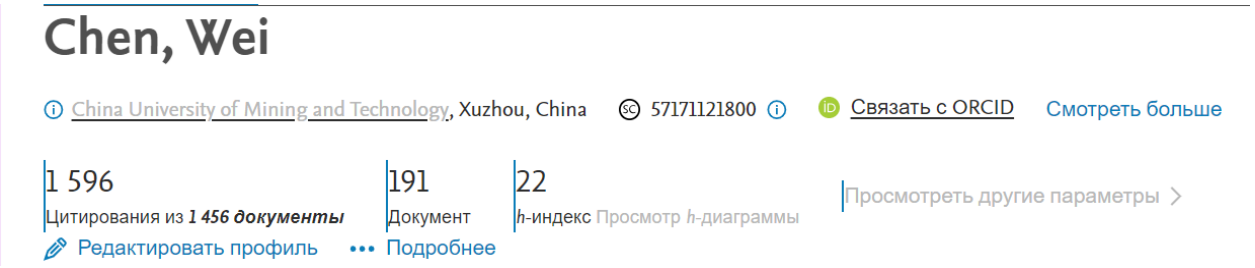

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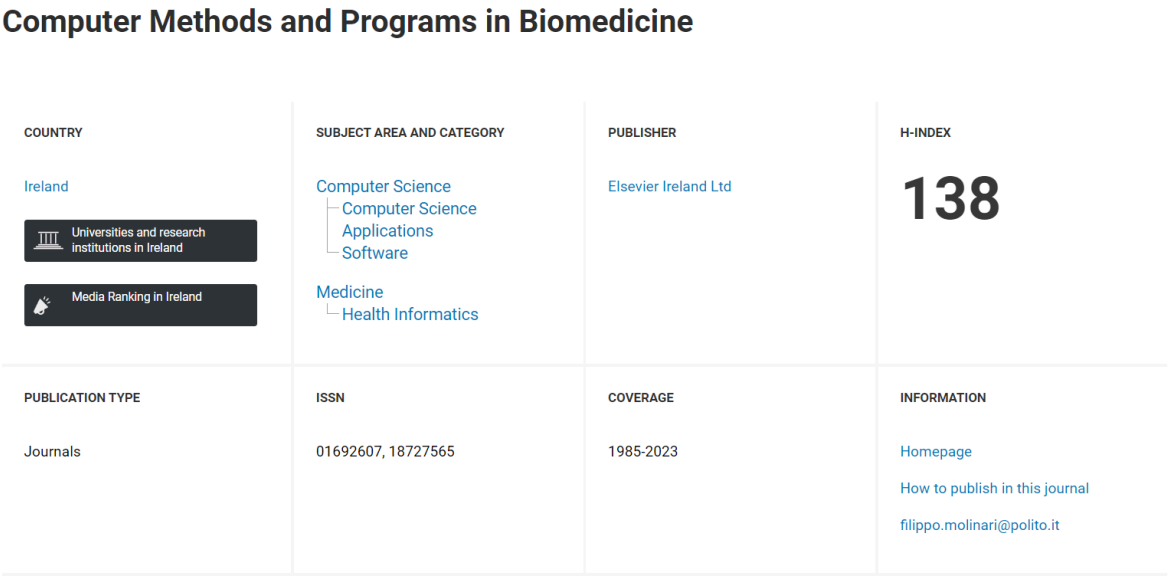

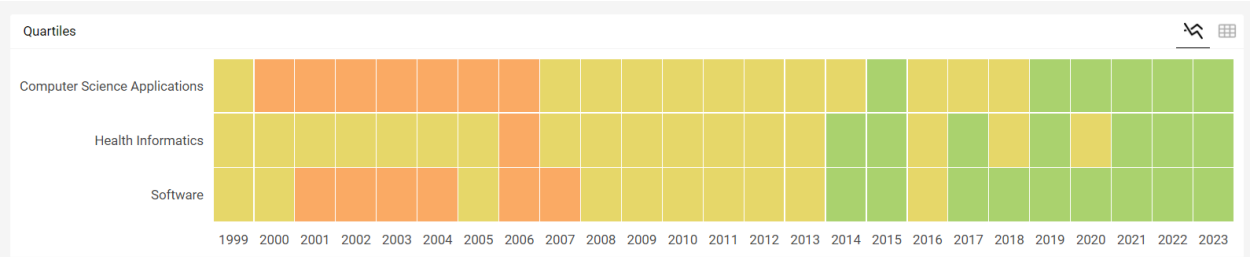

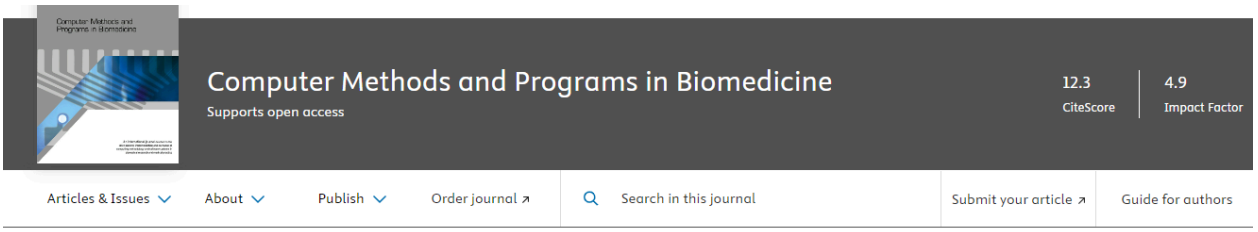

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China Universities and research institutions in China Media Ranking in China	Engineering Civil and Structural Engineering Social Sciences Transportation	KeAi Communications Co.	47

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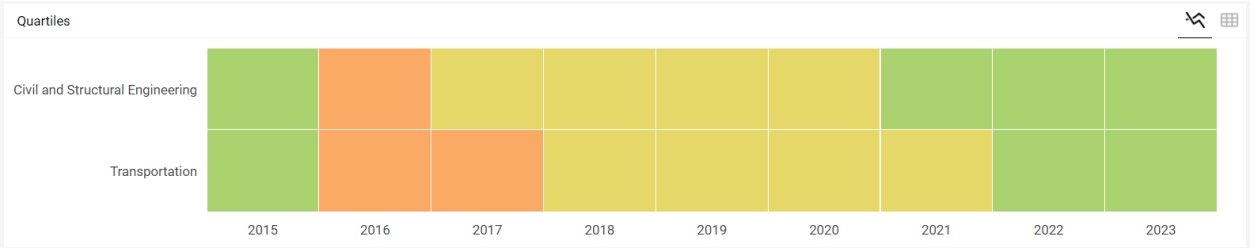
Journals	20957564, 25890379	2014-2023	Homepage How to publish in this journal jtte2014@126.com



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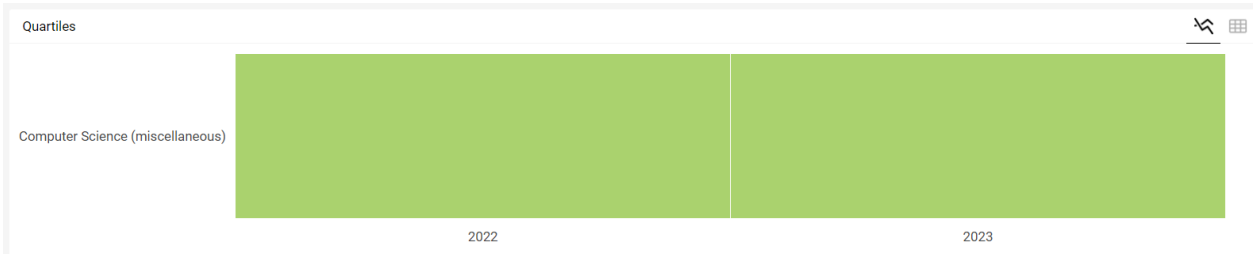

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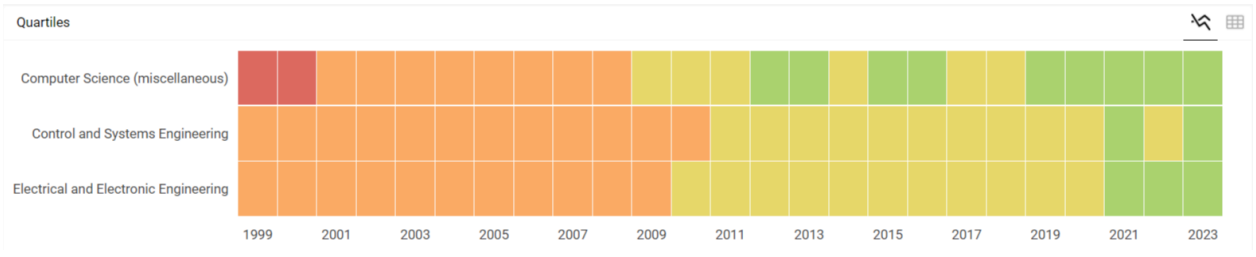

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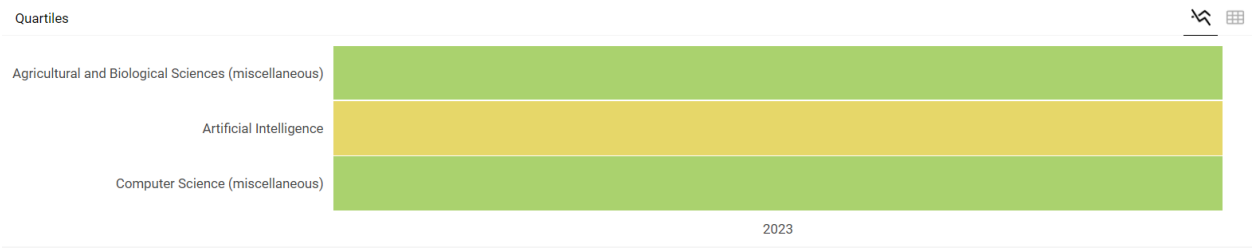

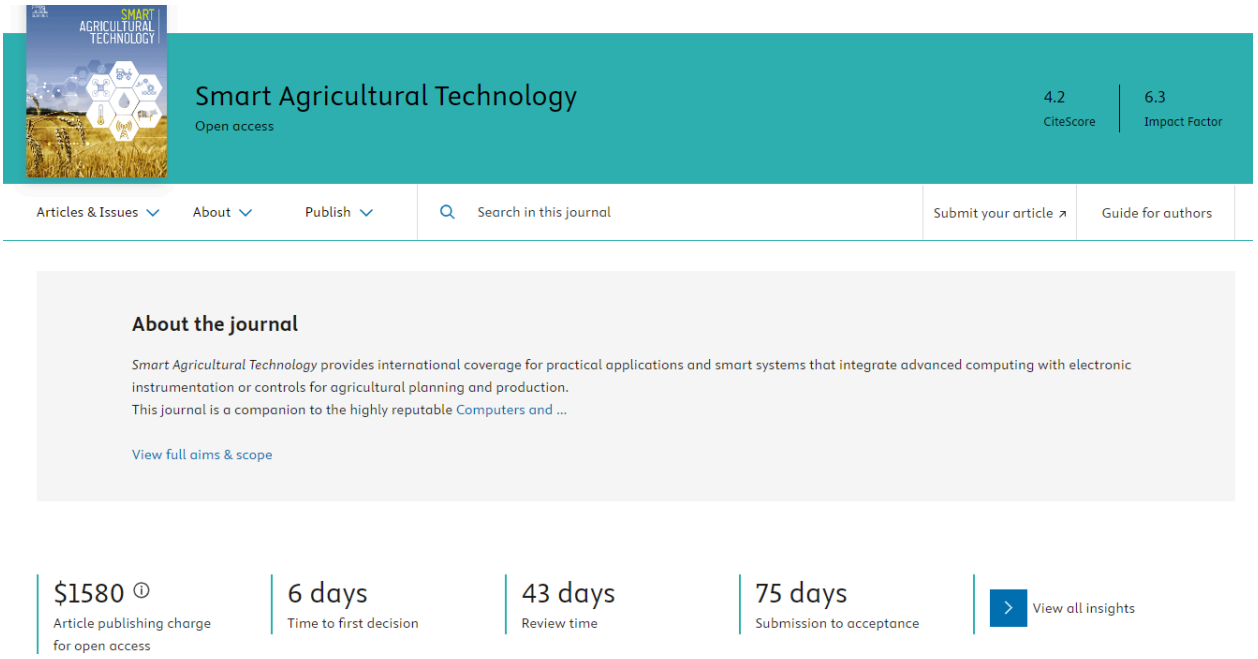

Вывод: Поиск информации на английском языке по теме предоставил значительно больше источников и исследований, охватывающих различные аспекты этой технологии. За рубежом тема автономных грузовиков и их интеграция в логистику вызывает больший интерес, что подтверждается количеством публикаций и активными разработками в данной области. В англоязычной литературе беспилотные грузовики рассматриваются не только с точки зрения технологий, но и через призму юридических, экономических и социальных аспектов. Можно сделать вывод, что для более полного понимания текущих тенденций и достижений лучше проводить поиск на английском языке, а сама тема является актуальной и активно исследуемой на международном уровне.