THE COMPUTER JOURNAL

WILKES AWARD 2020

RUNNER UP: Saurabh K Pandey

For 'DoA-Based Event Localization Using Uniform Concentric
Circular Array in the IoT Environment'
The Computer Journal (2019) 62 (10): 1403–1425

With thanks for your contribution to the journal,
Professor Steve Furber
Editor-in-Chief, *The Computer Journal*

Mr. Ramswaroop Sharma <ramsharma@lnmiit.ac.in>

Fwd: International/National Awards & Recognition received by Faculty-Reg.

Registrar LNMIIT <registrar@lnmiit.ac.in>   Wed, Sep 8, 2021 at 12:17 PM
To: "Mr. Ramswaroop Sharma" <ramsharma@lnmiit.ac.in>

Thanks

(**Dr Renu Bapna**)
Registrar, The LNM Institute of Information Technology, Jaipur, Deemed-to-be-University

---------- Forwarded message ---------
From: **Director Office LNMIIT** <directoroffice@lnmiit.ac.in>
Date: Wed, Sep 8, 2021 at 12:09 PM
Subject: Fwd: International/National Awards & Recognition received by Faculty-Reg.
To: Registrar LNMIIT <registrar@lnmiit.ac.in>

---------- Forwarded message ---------
From: **Dr.Saurabh Kumar** <saurabh.kumar@lnmiit.ac.in>
Date: Mon, 23 Aug, 2021, 6:47 AM
Subject: Re: International/National Awards & Recognition received by Faculty-Reg.
To: Director Office LNMIIT <directoroffice@lnmiit.ac.in>

Dear Ma'am,

With reference to the trailing mail regarding the faculty achievement information, I am sending you my achievement details as mentioned below. Also, the certificate of achievement is attached for your reference.

Wilkes Award 2020: Best Paper (Runner-Up) by Oxford University Press for the research paper entitled "DoA-Based Event Localization Using Uniform Concentric Circular Array in the IoT Environment", The Computer Journal (2019), 62 (10): 1403–1425.

About the Award
The Wilkes Award is given once a year to the authors of the best paper and best paper (runner-up) published in the volume of The Computer Journal from the previous year. The award is based on originality, quality of the theme and its treatment, and the applicability of published research in promoting the technology in the field of research.

About the Journal
The Computer Journal is an SCI journal published by Oxford University Press. The research paper was published in October 2019. Link to the article: https://academic.oup.com/comjnl/article-abstract/62/10/1403/5423662.

About the Research
The research paper addresses the problem of event localization in post-disaster management operations and proposes an IoT-based solution to perform localization of events using the Direction of Arrival technique. The proposed solution estimates the location of events by mapping the deployed devices using the concentric circular array, irrespective of the characteristics of the region of interest. The solution proves its efficacy using both the theoretical and testbed analysis. As part of theoretical analysis, the proposed algorithm is tested with Cramer-Rao bound limits. As part of testbed analysis, the algorithm is implemented and tested in a sample disaster scenario for fire handling using the set of sensors and IoT devices to demonstrate an efficient sense-actuate-communicate operations.

Abstract of Paper

Response and recovery are the two most crucial aspects associated with post disaster management. Both these operations need real-time data and location at which the event occurs. These operations require event-based collection of data at critical times. The events may occur at any place and the data may be needed from either or all of the events for strategic planning and event handling. It is a challenging task to process the events whose locations are uncertain. In this view, there is a need to know the real-time location of events occurring in the surrounding. Moreover, there is a possibility of huge amount of signal processing among the devices deployed in the terrain. In this context, an event localization algorithm is proposed based on the Direction of Arrival estimation technique in the Internet of Things environment. It estimates the location of events by mapping the deployed devices using concentric circular array in the region. Further, the Cramer–Rao bound for the proposed algorithm is derived and compared with the existing schemes for efficacy. The algorithm is implemented on real test bed and presented with comparative evaluation to validate the work.

If you need any other information, kindly acknowledge the same.

With Regards,
Saurabh Kumar
Assistant Professor,
Department of CSE,
The LNMIIT, Jaipur
Phone # +91-7974899975
[Quoted text hidden]

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The LNM Institute of
Information Technology

The LNM Institute of Information Technology, Jaipur

(Deemed-to-be-University)

Certificate of Appreciation

This certificate of appreciation is being awarded to

Dr. Saurabh Kumar

on the **19th Foundation Day** of the Institute on September 14, 2021,

in recognition of his Distinction/Award received at National/International level.

REGISTRAR

DIRECTOR