

Innovations in Sustainable Technologies and Computing

Jyotsna Kumar Mandal
Mike Hinchey
Satyajit Chakrabarti *Editors*

Recent Advances in Artificial Intelligence and Smart Applications

Proceedings of RAAISA 2023

 Springer

Innovations in Sustainable Technologies and Computing

Series Editors

Jagdish Chand Bansal, Department of Mathematics, South Asian University,
New Delhi, India

Joong Hoon Kim, School of Civil, Environmental and Architectural Engineering,
Korea University, Seoul, Korea (Republic of)

Atulya K. Nagar, Liverpool Hope University, Liverpool, UK

Jyotsna Kumar Mandal · Mike Hinchey ·
Satyajit Chakrabarti
Editors

Recent Advances in Artificial Intelligence and Smart Applications

Proceedings of RAAISA 2023

 Springer

Search within this book

 Search

Table of contents (22 papers)

Classification of Breast Cancer Using Deep CNN: A Comparative Analysis

Sneha Sarkar, Subhalaxmi Chakraborty, Lagnadip Bhowmik, Riya Paul, Aniruddha Ghosh
Pages 261–268

Ensemble Method for Predicting Student Performance and Dropout Risk

Mainul Islam, Mohammad Manzurul Islam, Md. Sawkat Ali, Nishat Tasnim Niloy, Abdullahi Chowdhury, Suranjeet Chowdhury Avik
Pages 269–278

Design of IoT-Based Smart Energy Meter for E-Billing and Prepaid Electricity

Dola Sinha, Sushmita Bhrahmachary, Sovan Bhattacharya, Neha Chaudhuri, Soumyakanti Manna, Chandan Bandyopadhyay
Pages 279–291

Back Matter

Pages 293–294

[Download chapter PDF](#) 

IoT-Enabled Machine Learning-Integrated Water Testing System for Ensuring Safety of Life

Pritam Kumar Mukhopadhyay, Arijit Chatterjee, Anwesha Banerjee, Moupali Sen, Shreya Basu, Saheli Pal et al.
Pages 167-177

EnDFUD: Enhanced Diabetic Foot Ulcer Detection with DETR and YOLOv5

Nishat Vasker, Mohammad Salah Uddin, Md Tahsin, Anika Tabassum Nafisa
Pages 179-191

Design a COVID-19 Vaccination Status Verification System Using Face Recognition for Bangladesh

Mohammad Salah Uddin, Debobroto Ghosh, Ali Akbar Aurnab
Pages 193-206

Face Recognition Using LBPH, Haar Cascade Classifier and Back Propagation Neural Network

Priya Chandran, Suhasini Vijaykumar, Shravani Pawar, Sudeshna Roy
Pages 207-219

Performance Analysis of Marketing Campaign with Customer Profile Using Machine Learning

S. Devaraju, S. Jawahar, M. Manimaran, A. Somasundaram, M. Thenmozhi
Pages 221-233

An IoT-Based Smart Tracking Application Integrated with Global Positioning System (GPS)

Ritika Chatterjee, Dola Sinha, Sovan Bhattacharya, Laxmidhar Biswal, Bappaditya Mondal, Chandan Bandyopadhyay
Pages 235-246

SAHMS: Smart Animal Health Monitoring System

Mohammad Salah Uddin, Md. Sabbir Hossain Khan
Pages 247-259

Chapter 18

An IoT-Based Smart Tracking Application Integrated with Global Positioning System (GPS)



Ritika Chatterjee , Dola Sinha , Sovan Bhattacharya ,
Laxmidhar Biswal, Bappaditya Mondal , and Chandan Bandyopadhyay 

Abstract This study presents the development of a wireless system designed to accurately find objects and visually display their precise positions on a map. The instrument is specifically created to serve as a versatile tracking mechanism that facilitates accurate placement through the utilization of coordinates, namely longitude and latitude. The central processing unit, as well as the interface unit for facilitating communication with both hardware and software components, is a NodeMCU microcontroller equipped with a high-end Wi-Fi module. The NEO-6M GPS module is employed for the purpose of transmitting geographical coordinates and establishing a connection with satellites. The tracking system has been implemented using two

R. Chatterjee

Department of ECE, Dr. B. C. Roy Engineering College, Durgapur, India

e-mail: ritika.chatterjee2002@gmail.com

D. Sinha (✉)

Department of EE, Dr. B. C. Roy Engineering College, Durgapur, India

e-mail: dola.sinha@gmail.com

S. Bhattacharya · C. Bandyopadhyay

Department of CSE (Data Science), Dr. B. C. Roy Engineering College, Durgapur, India

e-mail: sovan.cse@gmail.com

C. Bandyopadhyay

e-mail: chandanb.iiest@gmail.com

S. Bhattacharya

NIT, Durgapur, India

L. Biswal

International Institute of Information Technology, Bhubaneswar, India

e-mail: laxmidhar.cvrce@gmail.com

B. Mondal

Academy of Technology, Adisaptagram, Hooghly, India

e-mail: bappa.arya@gmail.com

C. Bandyopadhyay

University of Bremen, Bremen, Germany