



Access provided by: Vels Institute of Science Technology & Advanced Studies (VISTAS)

Sign Out

Access provided by: Vels Institute of Science Technology & Advanced Studies (VISTAS)

Sign Out

All



ADVANCED SEARCH

Conferences > 2023 3rd International Confer... ?

# Simulate the Machine Learning Algorithm to Organize the CRAHN Network System

Publisher: IEEE

Cite This

PDF

P Prabakaran ; L. Chandra Sekhar Reddy ; LVD Ravikumar ; Manish Kumar Verma All Authors

25 Full Text Views



## Alerts

Manage Content Alerts Add to Citation Alerts

### Abstract



Download PDF

#### Document Sections

- I. Introduction
- II. Cognitive Radio Ad Hoc Network Intelligence Modelling
- III. Learning-Based Adaptive Network Parameter Tuning for Collaborative Relaying
- IV. Crahn Policy Development
- V. Result

Show Full Outline

Authors

Figures

References



Keywords

#### Abstract:

Using available channels in a wireless spectrum, cognitive radio (CR) may automatically adjust transmission settings to optimize radio operational behaviour. To function ... **View more**

#### Metadata

#### Abstract:

Using available channels in a wireless spectrum, cognitive radio (CR) may automatically adjust transmission settings to optimize radio operational behaviour. To function properly, a CR ad hoc network (CRAHN) has to be dynamically capable construct autonomous and decentralized networks without negatively impacting licensed main user (PU) systems. For this reason, an effective spectrum necessitates a system structure based on artificial intelligence. This research provides a model for network planning, learning, and dynamic configuration that is based on a distributed autonomous CRAHN network system that uses reinforcement learning. The proposed optimization techniques for spectrum sensing, ad hoc network design, and context-aware signal categorization are all derived from the system model and are based on machine learning. The cognitive and detection engines may be used to examine the spectrum utilization and neighbour network status in the immediate area. To adapt to the ever-changing nature of the wireless environment, the suggested policy engine may generate network operating policies, identify policy conflicts, and infer the best course of action. Together with the erudition engine, whereby apply the recommended machine-learning methods, the decision engine arrives at the best possible settings for the CRAHN. In addition, guarantee peaceful cohabitation with surrounding systems to have excellent signal context recognition ability.

Published in: 2023 3rd International Conference on Advancement in Electronics & Communication Engineering

Metrics

(AECE)

More Like This

**Date of Conference:** 23-24 November 2023**DOI:** 10.1109/AECE59614.2023.10428284**Date Added to IEEE Xplore:** 15 February 2024**Publisher:** IEEE**► ISBN Information:****Conference Location:** GHAZIABAD, India Contents**I. Introduction**

The lack of frequency resources has become a major issue in recent years due to the increasing demand for wireless communication services[1]. Cognitive radio (CR) technology, which is a frequency-sharing mechanism accomplished via dynamic spectrum access, has garnered interest for its potential to make effective use of scarce frequency resources[2]. By monitoring the wireless environment, a CR network (CRN) may avoid interfering with accredited capital (Pus) using an unoccupied spectrum in space and time[3], [4]. The CRN has to cohabit peacefully with licensed users[5]. For the best performance in a wireless setting, the system must dynamically configure itself to make use of available resources[6], [7]. In this research, think about a distributed and self-configuring CR ad-hoc network (CRAHN) [8]. A CRAHN is more scalable and can adapt fast to changing wireless conditions[9], [10]. CRAHNs have found use in several different areas as of late due to their ability to quickly configure networks without relying on pre existing infrastructure and to make efficient use of the oftenest origin time [11], [12].

Authors



Figures



References



Keywords



Metrics

**More Like This**

A Comprehensive Study on Machine Learning Algorithms for Wireless Sensor Network Security

2020 11th International Conference on Computing, Communication and Networking Technologies (ICCCNT)

Published: 2020

Performance Analysis of Machine Learning Algorithms with Clustering Protocol in Wireless Sensor Networks

2023 International Conference on Artificial Intelligence in Information and Communication (ICAIIIC)

Published: 2023

Show More

**IEEE Personal Account**

CHANGE  
USERNAME/PASSWORD

**Purchase Details**

PAYMENT OPTIONS  
VIEW PURCHASED  
DOCUMENTS

**Profile Information**

COMMUNICATIONS  
PREFERENCES  
PROFESSION AND  
EDUCATION  
TECHNICAL INTERESTS

**Need Help?**

US & CANADA: +1 800  
678 4333  
WORLDWIDE: +1 732  
981 0060  
CONTACT & SUPPORT

**Follow**



[About IEEE Xplore](#) | [Contact Us](#) | [Help](#) | [Accessibility](#) | [Terms of Use](#) | [Nondiscrimination Policy](#) | [IEEE Ethics Reporting](#) | [Sitemap](#) | [IEEE Privacy Policy](#)

A not-for-profit organization, IEEE is the world's largest technical professional organization dedicated to advancing technology for the benefit of humanity.

© Copyright 2024 IEEE - All rights reserved, including rights for text and data mining and training of artificial intelligence and similar technologies.

**IEEE Account**

- » Change Username/Password
- » Update Address

**Purchase Details**

- » Payment Options
- » Order History

» View Purchased Documents

**Profile Information**

» Communications Preferences

» Profession and Education

» Technical Interests

**Need Help?**

» **US & Canada:** +1 800 678 4333

» **Worldwide:** +1 732 981 0060

» Contact & Support

[About IEEE Xplore](#) | [Contact Us](#) | [Help](#) | [Accessibility](#) | [Terms of Use](#) | [Nondiscrimination Policy](#) | [Sitemap](#) | [Privacy & Opting Out of Cookies](#)

A not-for-profit organization, IEEE is the world's largest technical professional organization dedicated to advancing technology for the benefit of humanity.  
© Copyright 2024 IEEE - All rights reserved. Use of this web site signifies your agreement to the terms and conditions.