SRI KRISHNA INSTITUTIONS COIMBATORE

Epochal Octavo

DEPARTMENT OF

Electronics and Communication Engineering

Sri Krishna College of Engineering and Technology

(An Autonomous Institution)

Accredited by NAAC with 'A' Grade, Accredited by NBA (CSE, ECE, IT, MECH & MCT)

Sri Krishna College of Engineering and Technology

Autonomous Institution, Affiliated to Anna University, Chennai
Accredited by NAAC with 'A' Grade & NBA.
Kuniamuthur, Coimbatore-08

2022-23

Issue-1

Student Chapter

VISION

- To equip future engineers with high academic knowledge, ethical values, leadership skills and a passion to contribute to the society

MISSION

- To provide quality and contemporary education in Electronics and Communication Engineering through continuous upgradation of Curriculum and laboratory facilities, industrial collaboration and effective teaching learning process.

- To facilitate research activities and entrepreneurship skills to cope up with the changes in industrial demand and meet the global and societal needs.

- To inculcate professional attitude and ethical values.

ABOUT THE DEPARTMENT

Electronics and Communication Engineering Research Gazette is a periodical publication of the Department of Electronics and Communication Engineering, which has a unique pinnacle for its goals, activities, achievements and research news. Department's blooming research programs leads a bridge to the students to participate in projects of various fields.

The Department comprises of highly qualified and experienced professors in various fields like Antennas, Communication, Embedded, Image Processing, Networks and Circuits, Signal Processing, VLSI etc., Faculties also maintain a cordial relationship with students.

The Department incorporates stupendously equipped laboratories to enhance the understanding capacity of the students. An efficient practical demonstration is regulated for the students to perceive and master them.

The Department conducts forums for researchers, academicians and industry people from all over the country to disseminate the new research finding and to explore innovative technologies for the benefit of the society. The Department pivots and anchors the current issues, advanced trends in the field of information, computing and communication systems.

HOD'S DESK

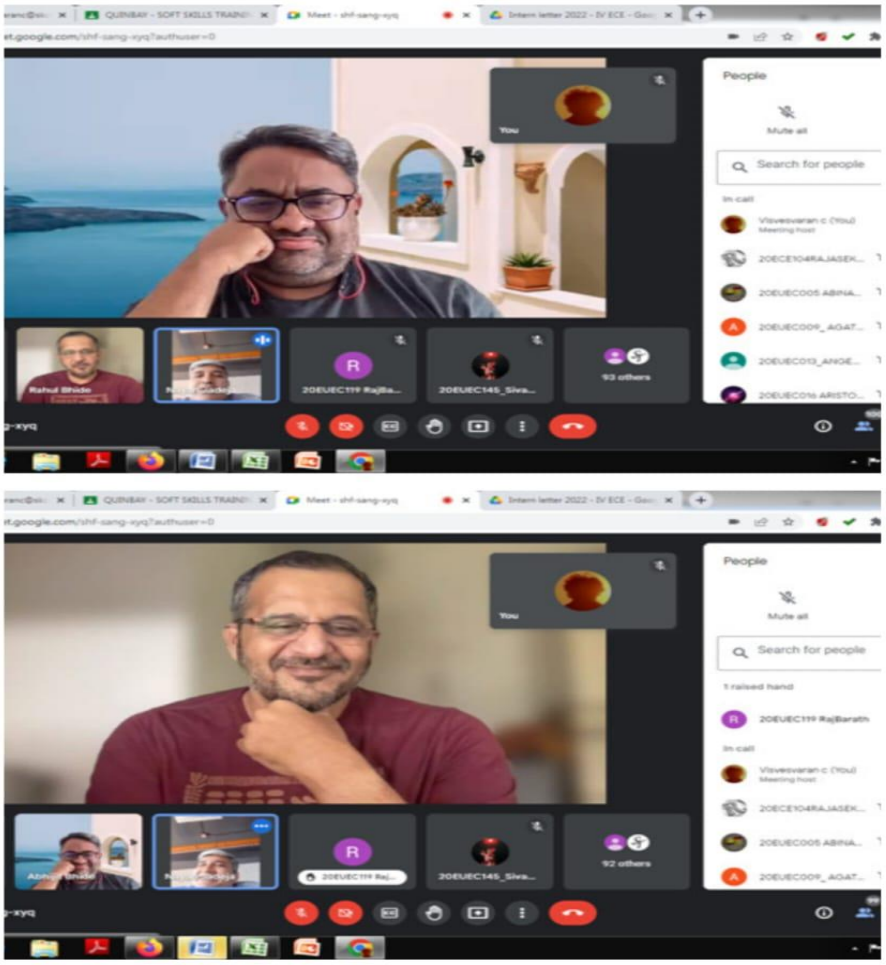
The ECE department has excelled in providing quality technical education since 1998. With a conducive environment, dedicated faculty, advanced laboratories, industry collaborations, and strong support from the management, students have achieved remarkable success in their careers. The department boasts qualified and passionate faculty members who focus on imparting quality education and shaping young minds. Their sought-after programs are industry and research-oriented, regularly updated with inputs from industry experts. Innovative teaching methods like participative and project-based learning, interdisciplinary projects, and online platforms enhance students' knowledge, skills, and attitude, preparing them for research, core industries, and entrepreneurship. The department also celebrates successful placements, international participation, research accomplishments, and collaboration with national agencies and alumni to continuously elevate its standards and serve society.

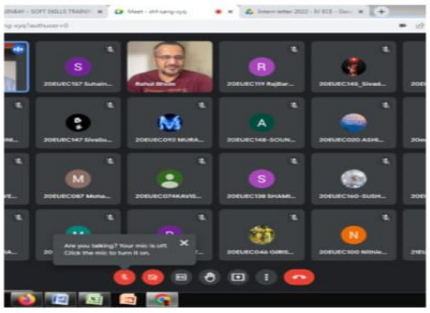
SYNOPSIS

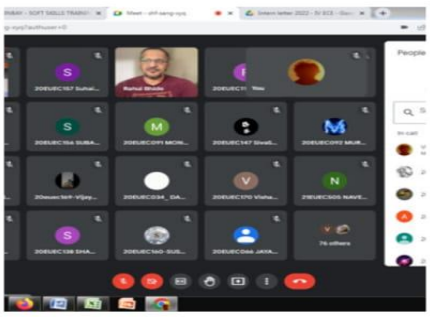
DEPARTMENT EVENTS

WEBINARS ORGANISED

Department of ECE has conducted a fruitful interaction with Mr. Nayan Jadeja, co-founder Quinbay (Coviam Technologies). It is an initiative session on Soft Skills Training conducted by Quinbay for our Third Year ECE Students. Resource Persons for this event are Mr. Abhijit Bhide, Consultant, Startup Initiatives and Mr. Rahul Bhide, Lead Consultant, ITC Infotech. The Session take aways are Building relationships in a software company, Basic ethics to be followed, the steps to create a product successfully, Improving our soft skills to have a better communication in workplace







LAB VISIT FOR CENTRE FOR EXCELLENCE

Mr Vishal - Business unit head and Ms Charumathi-HR Head from valeo labs company visited our college lab facilities and various initiatives taken from each department for establishing Centre for excellence in Embedded systems.

STUDENT ACCOLADES

R.Rakesh of III ECE secured the 2nd place in YUGAM-22(A techno cultural and sports festival) conducted at Kumaraguru College of Engineering from 14th to 30th May 2022

ALUMINI CONTENT

Studying in Abroad – My Experience

-Saravana Krishna Sivakumar

I had always wanted to study abroad. It was one of the main things I had looked at when applying to universities because it meant I could continue my education whilst satisfying my desire to travel, where SKCET played a vital role in helping me pursue my masters course abroad where the teachers from my ECE department were very supportive and encouraging and identified my talent and skills and also helped me to push to my limits in academics, leadership and also in communication which was a starting point for my idea to study in abroad.Studying Masters in Information and Communication Systemsat Technical University of Hamburg-Harburg (TUHH)in Germanywas the best choice I ever made. Despite it being a small campus, I found this to be a good thing because it meant I wasn't overwhelmed and settled in much quicker! This was also beneficial in relation to my studies as the classes were small and frequent, allowing me to get to know my professors and other students much better. I was allowed to take additional subjects other than in my curriculum which helped me a lot to focus to choose my career stream. What I liked most about the masters in Germany is that students could work in companies as a work student whilst studying in which they could get professional experience and also update their technical skills at the same time.

The University offers student accommodation for international students to live in for one year, where i became friends with everyone in the student dorm and the other international students, as well as people who lived in my own halls. I found this dorm to be a wonderful community and through it I was able to participate in events and experience a diverse range of cultures.

Despite it all being incredibly scary and nerve wracking at the start, this completely changed as the weeks went on and I started to settle in. Studying abroad has been one of the most enriching experiences I have ever had, boosting my confidence in all aspects of my life, such as meeting new people, visiting new places and more. I highly recommend studying abroad; whether that be at TUHH, in Germany, or anywhere else in the world!

I would like to thank my principal, HoD and professors from SKCET for their support and insights in my academic years.

2014-2018(B.E ECE)

R&D Conference Presentation

Dr.A.Albert Raj, professor, Dept of ECE has successfully presented the paper entitled "Effective and Efficient honey harvest system for Bee farm" at the International conference - ICCSR22 held at PPG institute of technology.

IOPscience ICECST

Certificate of Presentation

This is to certify that

Dr. A Albert Raj

has successfully presented the paper entitled

Effective and Efficient Honey Harvest Alert System for Bee Farms

at the

International Conference on Electronic Circuits and Signalling Technologies (ICECST - 2022)
organized by PPG Institute of Technology on 2-3, June 2022
held at Coimbatore, Tamil Nadu, India.

Session Chair

Organizing Secretary
Dr. G. Ranganathan

Conference Chair
Dr. V. Bindhu

R&D Journal Publication

Dr.A.Albert Raj, professor, Dept of ECE published a paper on A Novel Cryptography Technique for securing Personal Healthcare Record in Scopus Indexed Journal "Periodico di Mineralogia

PERIODICO di MINERALOGIA
ISSN: 0369-8963

Volume 91, No. 3, 20

A Novel Cryptography Technique for Securing Personal Healthcare Record

J. VIJILA [1*], A. ALBERT RAJ [2]
[1*]Corresponding author, University College of Engineering, Nagercoil, India.
[2]Sree Krishna College of Engineering and Technology, Coimbatore, India.

Abstract

Personal Healthcare Record (PHR) is an emerging patient-centric paradigm for exchanging health information in the cloud. Individuals' medical records are kept and backed up using this technology. As a result, this data is often transferred to a third-party service provider, such as a cloud service provider (CSP). As a result, this data may be accessible to third-party servers and to unauthorised persons. Personal healthcare information may be securely shared in the cloud utilising Elliptic Curve Cryptography (ECC) method, which ensures Patients have ownership over their own personal health information. Based on the user's rights, a method called multiple data file partitioning is utilised to divide the data file. The ECC encryption method is used to secure the partitioned data file. Public and private keys issued by the key issuer are required for access to the PHR by data owners and users. A private key is also required for the decryption procedure. Hence, the PHR are protected from unauthorized users and barred attackers and thus the proposed model improves data privacy, access control, efficiency and scalability when compared to existing model.

Key words: *PHR, Cloud computing, CSP, ECC, Multiple file partitioning, Unauthorized attacks.*

Following faculty members and students from the Department of ECE has presented and published a paper in 2022, 8th International Conference on Advanced Computing and Communication Systems (ICACCS). It is a Scopus Indexed IEEE Conference.

Name of the Authors	Title of the Paper
Dr Balaji V R; Surabhi. P. S	MIMO - OFDM System Based Wireless Data Transmission in Underwater Hydroacoustic Environment
Emayashri G; Harini R; Abirami S V; Ms Benedict Tephila M	Electricity-Theft Detection in Smart Grids Using Wireless Sensor Networks
Ms B. AnishFathima;	Secure Wireless Sensor Network Energy Optimization Model with Game Theory and Deep Learning Algorithm
Anand Kumar V; Dr Nandalal V; Abishek H; Brunda N; Dibu Greakia P; Denila Lettis R	Lora Based Safety Smart Device for Woman Protection
Ms Muneera Begum H; Jayasri S; Kavya Dharshini M; Luis Cruz Govindapillai; Jane Cynthia Juliet R	Face Recognition Door Lock System Using Raspberry Pi
K. Haripriya; A.S. Harini; M. Naveena; K. Anusha; Dr D. Mohanageetha	Dual Slot Multiband Microstrip Patch Antenna for Wireless Applications

https://ieeexplore.ieee.org/document/9785306

Conferences > 2022 8th International Confer...

Electricity-Theft Detection in Smart Grids Using Wireless Sensor Networks

Publisher: IEEE Cite This PDF

Emayashri G ; Harini R ; Abirami S V ; Benedict Tephila M All Authors

Abstract

Document Sections

I. Introduction

II. Literature Survey

III. System Analysis

IV. Result and Discussion

V. Conclusion and Future Scope

Authors

Figures

References

Keywords

Abstract:
Satisfying the growing demand for electricity is a huge challenge for electricity providers without a robust and good infrastructure. For effective electricity management, the infrastructure has to be strengthened from the generation stage to the transmission and distribution stages. In the current electrical infrastructure, the evolution of smart grids provides a significant solution to the problems that exist in the conventional system. Enhanced management visibility and better monitoring and control are achieved by the integration of wireless sensor network technology in communication systems. However, to implement these solutions in the existing grids, the infrastructural constraints impose a major challenge. Along with the choice of technology, it is also crucial to avoid exorbitant implementation costs. This paper presents a self-stabilizing hierarchical algorithm for the existing electrical network. Neighborhood Area Networks (NAN) and Home Area Networks (HAN) layers are used in the proposed architecture. The Home Node (HN), Simple Node (SN) and Cluster Head (CH) are the three types of nodes used in the model. Fraudulent users in the system are identified efficiently using the proposed model based on the observations made through simulation on OMNeT++ simulator.

Published in: 2022 8th International Conference on Advanced Computing and Communication Systems (ICACCS)

Date of Conference: 25-26 March 2022

DOI: 10.1109/ICACCS54159.2022.9785306

Date Added to IEEE *Xplore*: 07 June 2022

Publisher: IEEE

ISBN Information:

Conference Location: Coimbatore, India

https://ieeexplore.ieee.org/document/9785348

Conferences > 2022 8th International Confer...

Secure Wireless Sensor Network Energy Optimization Model with Game Theory and Deep Learning Algorithm

Publisher: IEEE Cite This PDF

B. AnishFathima ; M. Mahaboob ; S.Gokul Kumar ; A.Kingsly Jabakumar All Authors

Abstract

Document Sections

I. Introduction

II. Literature Review

III. Proposed Work

IV. Results and Discussion

V. Conclusion and Future Scope

Authors

Figures

References

Keywords

Abstract:
Rational and smart decision making by means of strategic interaction and mathematical modelling is the key aspect of Game theory. Security games based on game theory are used extensively in cyberspace for various levels of security. The contemporary security issues can be modelled and analyzed using game theory as a robust mathematical framework. The attackers, defenders and the adversarial as well as defensive interactions can be captured using game theory. The security games equilibrium evaluation can help understand the attackers' strategies and potential threats at a deeper level for efficient defense. Wireless sensor network (WSN) designs are greatly benefitted by game theory. A deep learning adversarial network algorithm is used in combination with game theory enabling energy efficiency, optimal data delivery and security in a WSN. The trade-off between energy resource utilization and security is balanced using this technique.

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Date of Conference: 25-26 March 2022

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Date Added to IEEE *Xplore*: 07 June 2022

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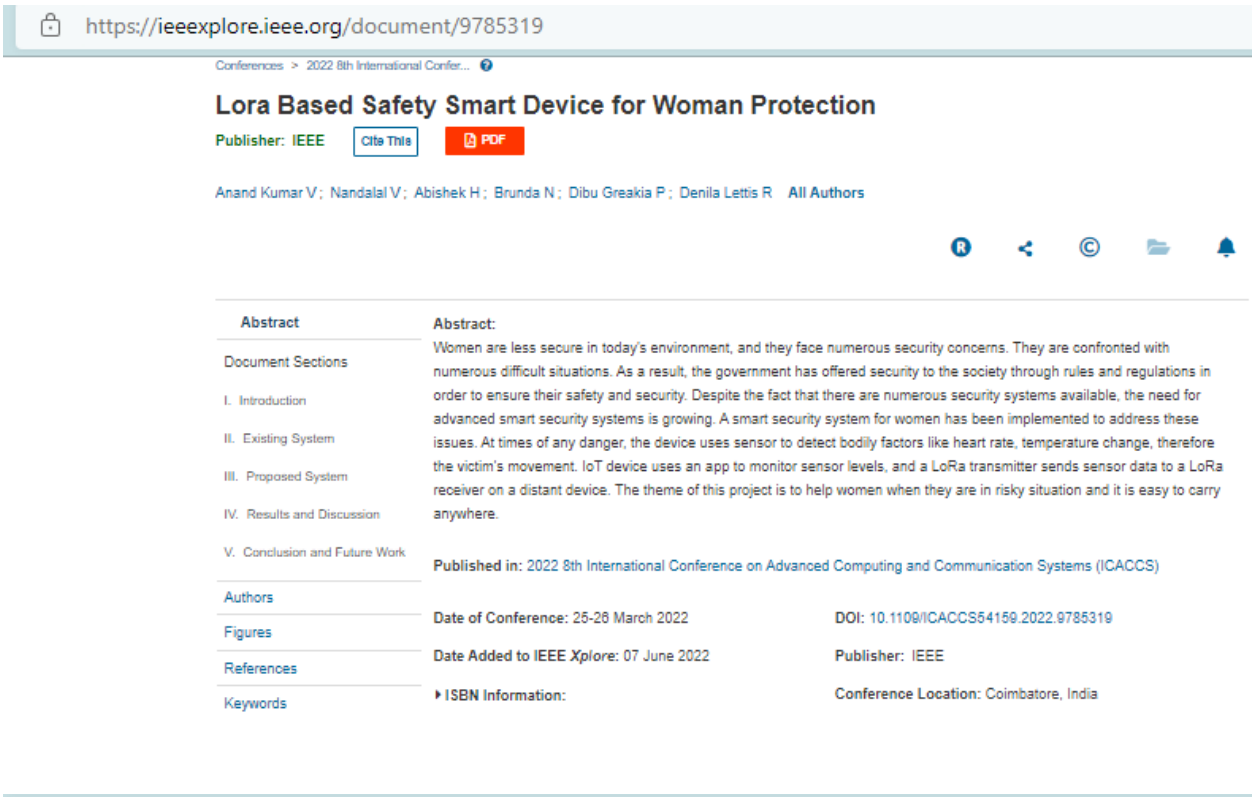

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Lora Based Safety Smart Device for Woman Protection

Publisher: IEEE | Cite This | PDF

Anand Kumar V ; Nandalal V ; Abishek H ; Brunda N ; Dibu Greakia P ; Denila Lettis R All Authors

Abstract

Document Sections

I. Introduction

II. Existing System

III. Proposed System

IV. Results and Discussion

V. Conclusion and Future Work

Authors

Figures

References

Keywords

Abstract:

Women are less secure in today's environment, and they face numerous security concerns. They are confronted with numerous difficult situations. As a result, the government has offered security to the society through rules and regulations in order to ensure their safety and security. Despite the fact that there are numerous security systems available, the need for advanced smart security systems is growing. A smart security system for women has been implemented to address these issues. At times of any danger, the device uses sensor to detect bodily factors like heart rate, temperature change, therefore the victim's movement. IoT device uses an app to monitor sensor levels, and a LoRa transmitter sends sensor data to a LoRa receiver on a distant device. The theme of this project is to help women when they are in risky situation and it is easy to carry anywhere.

Published in: 2022 8th International Conference on Advanced Computing and Communication Systems (ICACCS)

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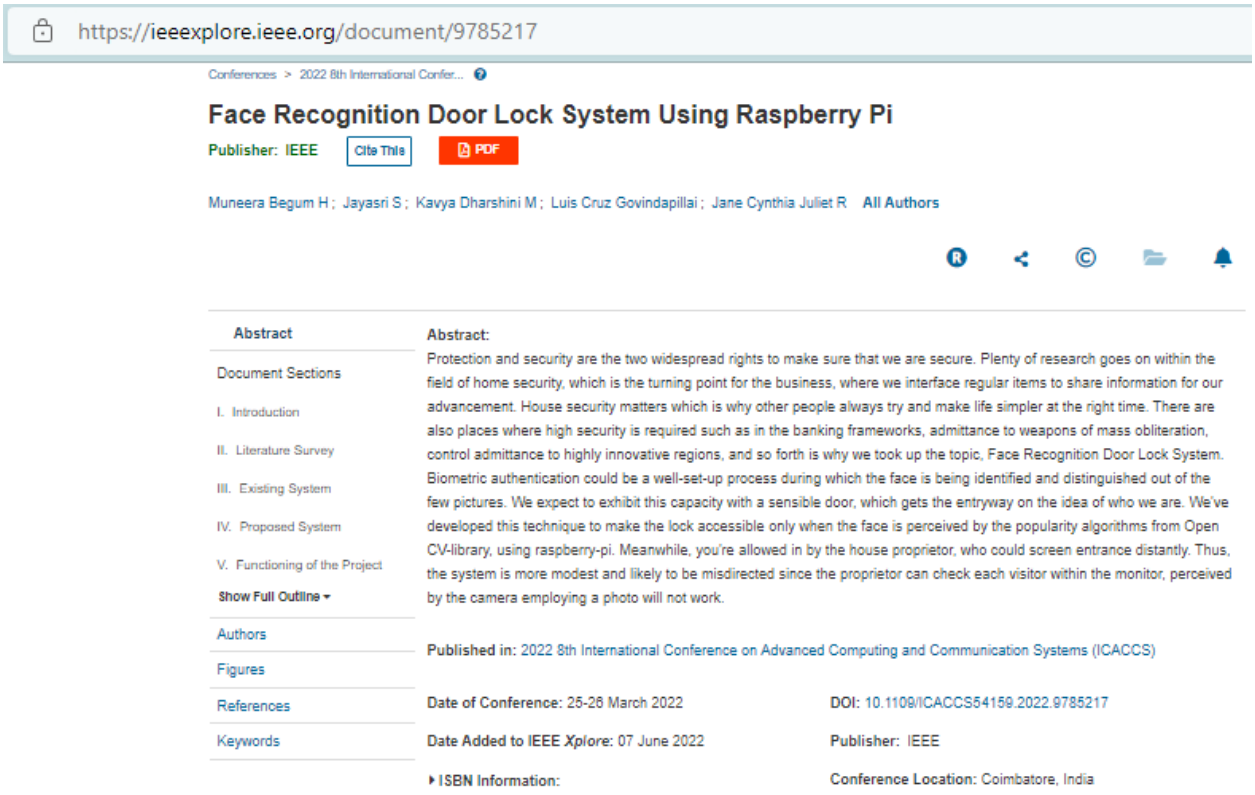

https://ieeexplore.ieee.org/document/9785217

Conferences > 2022 8th International Confer...

Face Recognition Door Lock System Using Raspberry Pi

Publisher: IEEE | Cite This | PDF

Muneera Begum H ; Jayasri S ; Kavya Dharshini M ; Luis Cruz Govindapillai ; Jane Cynthia Juliet R All Authors

Abstract

Document Sections

I. Introduction

II. Literature Survey

III. Existing System

IV. Proposed System

V. Functioning of the Project

Show Full Outline

Authors

Figures

References

Keywords

Abstract:

Protection and security are the two widespread rights to make sure that we are secure. Plenty of research goes on within the field of home security, which is the turning point for the business, where we interface regular items to share information for our advancement. House security matters which is why other people always try and make life simpler at the right time. There are also places where high security is required such as in the banking frameworks, admittance to weapons of mass obliteration, control admittance to highly innovative regions, and so forth is why we took up the topic, Face Recognition Door Lock System. Biometric authentication could be a well-set-up process during which the face is being identified and distinguished out of the few pictures. We expect to exhibit this capacity with a sensible door, which gets the entryway on the idea of who we are. We've developed this technique to make the lock accessible only when the face is perceived by the popularity algorithms from Open CV-library, using raspberry-pi. Meanwhile, you're allowed in by the house proprietor, who could screen entrance distantly. Thus, the system is more modest and likely to be misdirected since the proprietor can check each visitor within the monitor, perceived by the camera employing a photo will not work.

Published in: 2022 8th International Conference on Advanced Computing and Communication Systems (ICACCS)

Date of Conference: 25-26 March 2022

DOI: 10.1109/ICACCS54159.2022.9785217

Date Added to IEEE *Xplore*: 07 June 2022

Publisher: IEEE

ISBN Information:

Conference Location: Coimbatore, India

https://ieeexplore.ieee.org/document/9785337

Conferences > 2022 8th International Confer...

Dual Slot Multiband Microstrip Patch Antenna for Wireless Applications

Publisher: IEEE | Cite This | PDF

K. Haripriya ; A.S. Harini ; M. Naveena ; K. Anusha ; D. Mohanageetha All Authors

Abstract

Document Sections

I. Introduction

II. Related Work

III. Antenna Design

IV. Results and Discussion

V. Conclusion

Authors

Figures

References

Keywords

Abstract:
In this digital world wireless communication is grooving rapidly with varied applications. The development of antenna plays major role in this advancement. For mobile devices communication like WLAN and WIMAX patch antenna is preferred due to its compact size and efficiency. A dual slot multiband antenna is designed on the rectangular patch with a dimension of $40.60 \times 47.63\ mm^3$ on FR4 Substrate with dielectric constant of 4.4. The proposed structure radiates at 1.66 GHz, 2.34 GHz, 2.83 GHz and 3.3 GHz. These resonating frequencies can be utilized for LTE, WLAN, WIMAX, and 5G wireless applications. The designed dual slot structure has acceptable radiation characteristics in the radiating frequency. The design of the antenna and its various application in wireless communication allows easy integration in hand-held devices.

Published in: 2022 8th International Conference on Advanced Computing and Communication Systems (ICACCS)

Date of Conference: 25-26 March 2022

DOI: 10.1109/ICACCS54159.2022.9785337

Date Added to IEEE *Xplore*: 07 June 2022

Publisher: IEEE

ISBN Information:

Conference Location: Coimbatore, India

ISSN Information:

Faculty Accolades

Dr.Albert Raj, professor, Dept of ECE has been elevated as senior member of IEEE. This award has been given to him for his professional commitment towards the advancement of Technology.

The following faculty members have successfully completed one week online FDP on "Recent Trends in 5G Communication, Design & Technologies" organized by the Department of Electronics and Communication Engineering, Rajalakshmi Engineering College in association with IEEE Student Branch-REC. IETE and Institution Innovation Council from 5.7.2022 to 9.7.2022.

Name	Designation	Department
Dr.A.Albert Raj	Professor	ECE
Dr. M. Karpagam	Professor	
Dr. S.Sasipriya	Professor	
Dr. V. Nandalal	Professor	
Dr. V.R. Balaji	Professor	
Dr. C.Thirumarai Selvi	Professor	
Dr.B. Maruthi Shankar	Associate Professor	
Dr.R.Senthil Ganesh	Associate Professor	
Ms. D. Devi	Associate Professor	
Ms. N. Kalaivani	Associate Professor	
Ms. D.V.Soundari	Assistant Professor	
Mr. C.Visvesvaran	Assistant Professor	
Ms.Priyadharsini K	Assistant Professor	
Mr.Dinesh Kumar J R	Assistant Professor	
Ms.K.Suriya	Assistant Professor	
Ms.Praseetha	Assistant Professor	


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Dr.Senthil Ganesh, Associate Professor, ECE, attended a 2 day workshop on "Machine Learning: Trends, perspectives and prospects" organized by ECE, Kumaraguru College of Technology, Coimbatore.

Ms.U.Vanitha, Associate Professor, ECE department successfully completed 15 sessions of 30 contact hours on "Innovation Ambassador Training – Foundation Level" on 9.7.2022

Dr.V.R.Balaji, Professor/ECE, SKCET addressed parents and students on opportunities in Computer Science and Information Technology courses at Kaalaikathir Vazhikaati, Salem

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