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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING (ECE)

EXPLORE, DREAM, DISCOVER



MONTHLY **NEWS**LETTER

GENESIS

IGNITING THOUGHTS

MAY 2021 ISSUE 40



VISION

To be recognized at the national and international level for excellence in Education and Research in Electronics and Communication Engineering.

MISSION

- Inculcating leadership qualities, adaptability, and ethical values.
- Imparting quality education in the field of electronics, communication, and related areas to meet the challenges in the industry, academia, and research.
- Nurture the growth of each individual by providing a dynamic and conducive learning environment.

DEPARTMENT ACTIVITIES/ACHIEVEMENT

NATIONAL INNOVATION CONTEST 2020 RESULTS

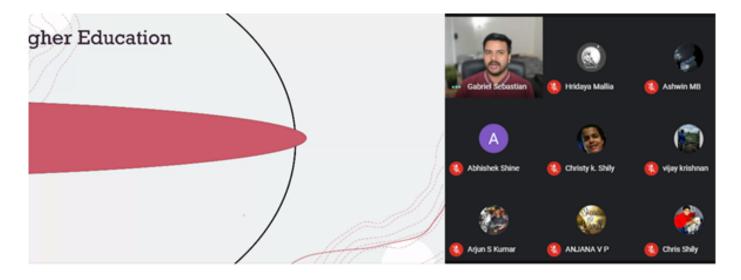
It is great contentment for the team from ASIET in securing a position among the 127 finalists of NIC 2020. It was really an exciting journey for them, traversing from 9K plus prototypes, to be scouted from more than 900 IIC institutions across India.

NIC received almost 1400 odd best prototype nominations from these Institutes for further evaluation and support. After multiple rounds of evaluation, mentoring and training, finally, 410 of them were found to reach the level of developing a business plan for their innovations. Taking the Weighted avg. scores from all the rounds, 127 finalist teams were declared. The finalists will be receiving further training on startup modelling and finance proposal development while their proposals will be assessed for funding facilitating incubation support and for linkage by MIC.



WEBINAR ON HIGHER EDUCATION

The placement cell of the Department of Electronics and communication engineering organized a webinar on "Learning Pathways in higher Education abroad" on 27th April 2021 2.00 PM-3.30 PM. The speaker for the session was Mr. Gabriel Sebastian, a Research student at University West, Sweden.

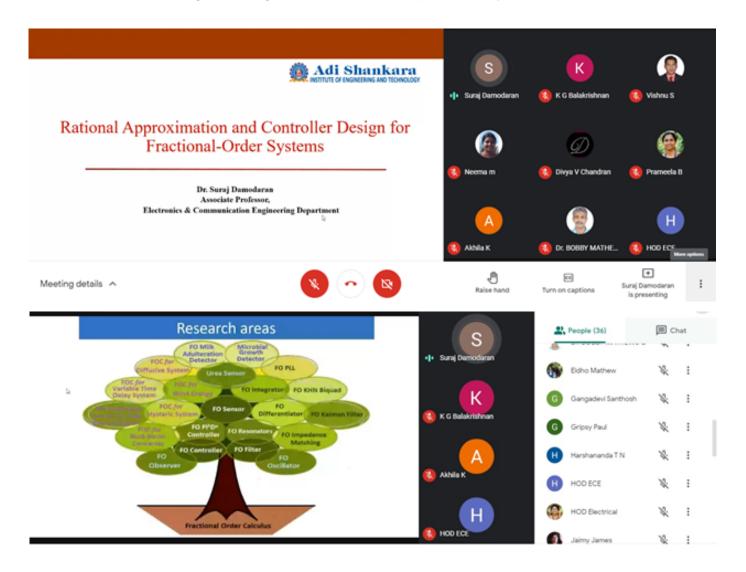


Mr Gabriel Sebastian emphasized the important points to be kept in mind while choosing a career pathway, in improving our language and communication skills, about finances and scholarship etc. In the second half of the session, he explained the educational opportunities available in Sweden. Mr Gabriel gave an overview of the experiences he had at his university while pursuing his masters in Robotics and automation. He mentioned the importance of work-integrated learning as it would enhance the skills and make the person able to work in the real world. The session was Coordinated by Ms. Neetha K, Assistant professor, ECE Department, Ms.Hridaya U Mallia and Ms. Kavya G Padiyar (S6 ECE students). Students from various semesters attended and reflected a very positive feedback.

RESEARCH SEMINAR

a) RATIONAL APPROXIMATION AND CONTROLLER DESIGN FOR FRACTIONAL-ORDER SYSTEMS

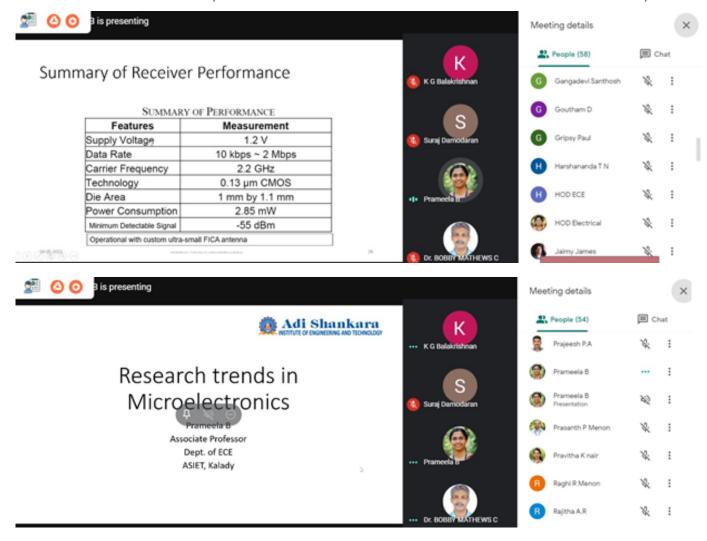
The Sixth research seminar of the department of Electronics and Communication Engineering was delivered by Dr. Suraj Damodaran, Associate



Professor ECE on the topic "Rational approximation and controller design for fractional-order systems" on 10th May 2021 via google meet. The session focused on the applications of fractional calculus in control system engineering. Starting with a brief introduction to the fractional calculus and fractional-order circuit element called fractor, the seminar made the audience go through the state-of-art survey of the fractional-order modeling, control and approximation methods. Various toolboxes used by researchers working in this area was also presented.

B) RECENT TRENDS IN MICROELECTRONICS

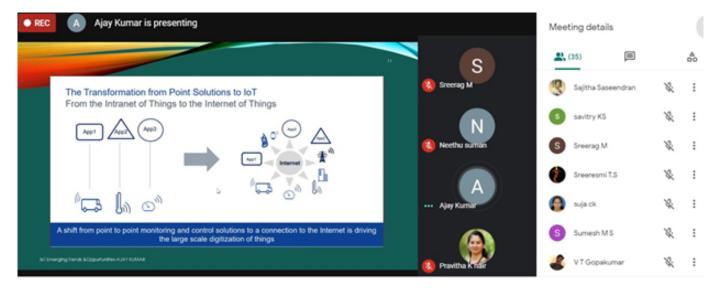
The Seventh research seminar of the Department of Electronics and Communication Engineering was delivered by Ms. Pramela B, Associate Professor ECE on the topic "Recent Trends in Microelectronics" on 10th May 2021



through google meet. The session focused on the various research trends in microelectronics globally. The researches being done in premier institutes in India in the field of device modelling, nanoelectronics, MEMS, RF Design etc were discussed. Awareness about the chip design scenario and various funding agencies in India was briefed.

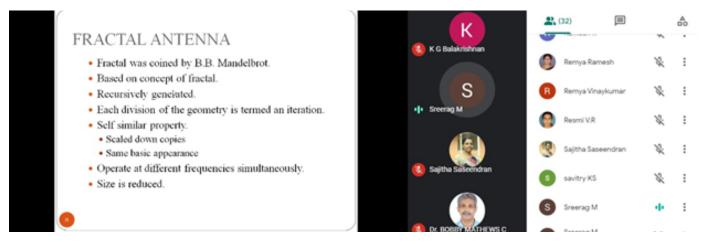
c)IOT- EMERGING TRENDS AND OPPORTUNITIES

The eighth research seminar was conducted online by the department of electronics and communication engineering by Mr.Ajay Kumar Associate Professor ECE on the topic "IoT- Emerging Trends and opportunities" on 20/5/21 through google meet. The session mainly focused on IoT and its applications in day to day life, Challenges which are faced in the successful implementation of IoT Networks such as connectivity, security and scalability was detailed. The future research avenues in the area of the internet of things were discussed by stressing the emerging trends that could change the vision of IoT.



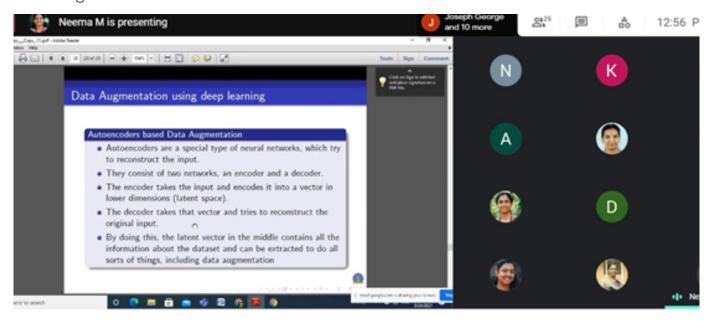
d) FRACTAL ANTENNAS FOR UWB APPLICATIONS

The ninth Research seminar conducted by the department of electronics and communication engineering through google meet was delivered by Mr.SREERAG M, Assistant Professor ECE on the topic of fractal antennas for UWB applications on 20/5/2021. The session mainly focused on antenna design based on fractal geometry. The presentation detailed the features of UWB, fractal antenna design and the simulation results and procedures involved in doing parametric analysis. Various antenna structures suitable for UWB was also discussed



e) DATA AUGMENTATION FOR DEEP LEARNING

The tenth research seminar of the department was conducted in online mode through Google meet on the 24th of May 2021. The session was delivered by Ms. NeemaM, Assistant Professor ECE on the topic of Data augmentation for Deep Learning.



The talk emphasized the importance of having a proper and sufficient dataset to train a deep learning model. It also discussed different data augmentation methods used in various types of data like image, text, numeric data etc. The session concluded by explaining machine learning methods for data augmentation like autoencoders and GANs

GATE ORIENTATION CLASS

The placement cell of the Electronics and communication engineering department organized an online session on "GATE orientation & Demo class" on May 20th (Thursday) from 2.30 PM to 3.30 PM for fourth semester ECE students by I-ONES Coaching Institute. The session discussed the following topics

- a) Opportunities after B.Tech
- b) GATE Exam
- c) Career Options after GATE Exam
- d) GATE Technical Subject Demo Class.

The Session was organized by Mr. Akas G Kamal, Assistant Professor, ECE. More than 70 students participated in session.



KTU UNVERSITY EXAM TOPPERS(\$2)



HRITHIKA S PAL SGPA-10



ABHIRAMI MURALIDHARAN SGPA-9.95



VYSHNAV CJ SGPA 9.43



Bibin Varghese SGPA 9.29



SIDHARTH AJ SGPA 9.29



MANIKANDAN AR SGPA 9.24



ABIRAMI K A SGPA-9.02



ASHILY SHIBU SGPA-9.00



TITYARAMACHANDRAN (STUDENT OF S2 EC B) -FIRST POETRY BOOK TITLED "BREAK OUT" GOT PUBLISHED ON AMAZON, APPLE I BOOKS AND KOBO BOOKS.



We congratulate all the successful student who got placed in various companies this year



ANILA SHENOY
UST placement



AKSHAY K S
OSPYN Technologies Pvt. Ltd.,
Technopark, Trivandrum



1. Smart Notice Board:

The Department of Electronics & Communication has introduced a smart online notice board for all the stakeholders, concerning this pandemic situation. Everyone can view and check updates through this URL: https://sites.google.com/adishankara.ac.in/eceasiet

2. AICTE-ATAL online FDP

The FDP proposal titled "AI-Enabled IoT Networks" submitted to AICTE- ATAL by the Department of ECE has got approved and has been listed in the upcoming AICTE-ATAL online FDPs for the year 2021-2022. Available here: https://www.aicte-india.org/atal. The proposal was submitted by Mr. Ajay Kumar and Mrs. Arya Paul.

3. CERD RSM PRESENTATIONS

Two proposals from the department are selected for CERD- RSM presentation.

- a) Dr Bipin P R: Development of a Fog Computing based System for Covid'19 and Cardiac Arrhythmia Detection using Deep Learning.
- b) Mr Ajay Kumar: IOT based Environmental Monitoring and Controlling System

INTERNSHIPS

Following Students of 2018-22 batch got selected to do internships at





V.U Anakha



Hridaya U Mallia



Krishnapriya



Malavika J



Parvathy S Kumar



Rahul G Krishna



Sneha Varma



M.G Sukanya



Congratulations to Ms. Prameela B for playing the role as an advisor and mentor for the students in having internship with *Silizium Circuits*, Ernakulam..

TECH TALKS

TEACHER'S ZONE

AUTHOR:

Dr. Ragesh G K,
Professor& Head,
Department of Floots

Department of Electronics and Communication Engineering



LINKEDIN: A POWERFUL PROFESSIONAL NETWORKING TOOL FOR COLLEGE STUDENTS

LinkedIn might not be the first thing that comes to a students' mind when they think of social media. This is because it doesn't seem 'Social' and it is not the place where their friends usually hang out. But students should keep in mind that their LinkedIn profile is not just a resume, but rather an effective tool for building a professional online presence. In today's digital world, a significant number of companies are searching for qualified applicants for job openings on social networking sites such as LinkedIn. In an Indian scenario, parents assist their children in finding internships or jobs by connecting them with people they know. Using LinkedIn, students can do their own research on how to connect to potential employers or similar people without asking their parents for favors. Thus, creating an impressive profile on LinkedIn teaches a student that social media isn't just for trivial stuff.



Why do college students require a LinkedIn profile?

Build a professional online presence:

LinkedIn enables students to establish an online identity that is worthy of sharing with the rest of the world. It is very important for a student to have a professional online presence where they can highlight their talents and expertise while they're looking for a new job or preparing themselves for career advancement.

Connections with 'warm' contacts and alumni:

LinkedIn is the best networking forum for students when it comes to nurturing a professional network. This platform helps them to connect with their college alumni, but also with top professionals in the industry in which they wish to work. It has a data visualization tool that can be used to help users continue to build and identify their quality network. It's also a tool for career exploration (find out where alumni live, where they work, what they do, what they studied, what they're good at, and how you're related to them).

To develop new skills:

LinkedIn Learning is an on-demand library provided by LinkedIn that includes instructional videos covering the latest business, technology and creative skills. It provides personalized course recommendations and is designed to help users to achieve their full potential. Being skilled in various management and technical skills is the best thing a student or professional can do to succeed academically and professionally. So every student should make sure to take advantage of this powerful service to enhance their skills.

Internship and Job opportunities: LinkedIn has a number of resources that can assist a student in finding a career and internship opportunities. They can browse company websites or search results to uncover the various opportunities in their area of interest and career. 93% of recruiters are using LinkedIn to find their future employees. and almost all of them use this platform to screen applicants initially. LinkedIn has built a job portal for students and recent grads. It provides quick access to entry-level jobs and internships on LinkedIn from the best companies in the world, including jobs in non-profit and government agencies. The student job portal is free and every student should take advantage of this platform to showcase their abilities and interact with potential employers for internships and other career opportunities.

Learn Professional Networking Etiquette:

Using this professional platform, students can gain confidence, learn industry trends and professional vocabulary, explore industries, and identify the essential skills needed for a professional role.

Professional photo of a student alone

Recommendations from professors, advisors, internships



5 golden rules of LinkedIn student profiles Headline with area of study and/or career ambitions

Inclusion of
volunteer
activities,
internships and
extra curriculars

Keyword-rich
summary that
includes the
type of positions
a student is
seeking

Declaration

I hereby certify that, this article titled "LinkedIn: A powerful Professional Networking Tool for College Students", is my original work and has never been published anywhere before.

STUDENT'S ZONE

AUTHOR: Surya Paul and Lizbeth Shaji (2017-21 EC B) Department of Electronics and Communication Engineering





JOURNEY OF FASHION FROM ANIMAL SKIN TO SENSORS

Mankind experienced an evolution in fashion and textiles, from untreated paper and animal skins to delicate coated materials and space age materials. The development and design of these materials depends on several factors, including social and cultural criteria, comfort, environment and climatic conditions. The main objective of progress in this area has always been protection. Textiles have been at the center of human technological advancements for thousands of years and with textile developments closely related to the major inventions that shaped societies. The relatively recent invention of electronic textiles has opened the possibilities for clothing related to defense, sports, medicine and sanitation. The innovation of textiles 27,000 years ago can be challenged as the invention of the primary material by man. The passage of millennia has consolidated humanity's need for textiles to be stripped of the environment or the desire to transmit a message about them abroad; be it artistic, stylistic or related to wealth.

The creation of textiles was primarily linked to the great inventions that shaped society; William Lee's plaid weaving in 1589, John Kay's flying ferry in 1733, and James Hargreaves' yarn harvest around 1765 laid the foundation for the first Industrial Revolution. Now a new revolution is taking place, as the materials most used by humanity have acquired new functions through the integration of electronic components. The earliest examples of electronic textiles date back to the use of illuminated headbands in the ballet La Farandole in 1883. Recent developments due to the reduced size and cost of electronic components, as well as the increased complexity of small-scale electronics, are beginning to show the true range of possibilities for combining electronics with clothing.

The rise in the production of electronic textiles in the second half of the twentieth century was driven by a number of advances in materials, science and electronics, further expanding the potential for incorporating electronics into clothing. The electrically conductive polymer was a major innovation, invented by Heeger et al. A patent for this type of technology for use with textiles was issued shortly after its inception. Another major advance was the development of transistor technology when the first MOS (metal oxide field effect transistor for semiconductors) was created in 1960. The use of transistor electronics was indicated in a 1979 patent describing luminous clothing. To and

increase the distribution of electronic textiles, a higher level of integration of electronic components is required. Major patents 2005, 2016 and 2017 describe the encapsulation of semiconductor devices within spinning fibers. This marks the start of work on functional flows electronically.

Across the whole spectrum of e-textiles products, the number of proposed application areas and market sector is extremely broad (including medical and health care, sports and fitness, military and space, enterprise, PPE and other work wear etc.). The big picture of e-textiles is extremely promising, particularly when considering a new form factor for electronics and how they can interact with the body. E-textiles products are being explored in many exciting niches, from body motion capture, to prevention of multi-billion dollar diseases and side effects to improving road safety, and many more. Apart from this some of the benefits of electronic textiles are flexible enough with more comfort, offers data accuracy as it is wearable and close to the body, no external wires to snag environment, easily covers the large area of sensing and remains invisible to others, affordable manufacturing, strength and permeability, thermal and electrical resistance.

The various fields such as material science, Mechanical engineering, Electrical Engineering and Information Technology are widely used in e-textiles. The important devices such as sensors, data processors, communication devices, actuators and storage device are used in smart textiles. Some of the current technology in e-textiles are zoll life vest, vivo matrics life shirt etc.

Zoll life vest is a personal defibrillator worn by a patient at risk for sudden cardiac arrest. It monitors the patient's heart continuously, and if the patient goes into a life-threatening condition, the life vest delivers a shock treatment to restore the patient's heart to normal rhythm. Vivo matrics life shirt is an innovative textile where electronics is integrated into textile that can read conditions like heart rate, blood pressure, calories burnt, lap time, steps taken, oxygen level etc.



Zoll life vest

It is also called body monitoring garments. It is said that it can save the life of a new born or of a sportsman. There is another smart shirt called Georgia tech wearable motherboard known as the intelligent garment of 21st century which is designed originally to improve medical assistance in military scenarios.



Georgia tech wearable motherboard



Vivo matrics life shirt

Sensors are connected to these smart shirt controllers that collect and transmit data to the central medical server. To use this technology, a combat soldier attaches sensor to his body, pulls the smart shirt ON, and attaches the sensors to the smart shirt. The smart shirt functions like a motherboard, with plastic optical fibers and other specially designed fibers woven throughout the actual fabric of the shirt. To the exact location of bullet penetration, a signal' is sent from one end of the plastic fiber, to a receiver at the other end. The emitter and receiver are connected to a personal status monitor (PSM) worn at hip level by a soldier. If the light from the emitter does not reach the receiver inside PSM, it signifies that the smart shirt has been penetrated (i.e., the soldier has been shot.). The signal bounces back to the PSM from the point of penetration, helping the medical person to know the exact location of the soldier's wound. The soldier's vital signs like heart rate, temperature, respiration rate etc. are monitored in two ways: through the sensors integrated in to the T-shirts; and through the sensors on the soldier's body, both of which are connected to the PSM.

Electronic textiles are a newly emerging interdisciplinary field of research which brings together specialists in information technology, micro system, electronics, materials and textiles. The focus of this new area is on developing the enabling technologies and fabrication techniques for the economical manufacture of large area, flexible, conformable, information system which are expected to have unique applications for both consumer's electronics and military industry.

STAFF ACHIEVEMENT AND PARTICIPATION

Dr.Ragesh G K

Resource person for ATAL FDP on Embedding AI in Smart Sensors: Topic Smart Sensor Applications on 9/06/2021 conducted by Dept of Electronics and Instrumentation, Sree Rama Krishna Engg College, Coimbatore

Dr. Bobby Mathews C

Coordinated the APJ Abdul Kalam Technological University sponsored 5 days Online Faculty Development Program on "ROBOTICS & CONTROL" from 19.04.21 to 23.04 21 conducted by Dept. of Robotics and Automation, ASIET

Dr. Bipin P R

- Participated in a Short Term Training Program (STTP) on Medical Image Processing and its Applications in Automated Disease Detection on 24/4/2021 conducted by St. Martins Engineering College, Secunderabad, Telangana
- Participated in a Faculty Development Program(FDP) on "Python for Engineers" on 30-04-2021 conducted by Vimal Jyothi Engineering College, Kannur

Dr. Suraj Damodaran

Participated in Webinar on "Introduction to model predictive control and its applications" on 22-05-2021 conducted by Control system research group, Department of electrical and electronics engineering, Mar baselios college of engineering and technology, Thiruvananthapuram

Prameela B

Reviewer for Journal of Advanced Research in Fluid Mechanics and Thermal Sciences" on 24.04.2021

Remya Ramesh

Participated in a Faculty Development Program (FDP) on "Robotics and Control" conducted by Department of Robotics and Automation, ASIET from 19-4-21 to 23-4-21

Prajeesh P A

- Participated in a Faculty Development Program(FDP) on "Emerging Trends and Challenges in Low Power VLSI Design " conducted by the Department of ECE, MBCCET, Peermade from 19/5/2021 to 21/5/2021
- Participated in a Faculty Development Program(FDP) on Robotics and Control by the Department of Robotics and Automation, ASIET from 19-4-21 to 23-4-21 conducted

Archana Aniyan

- Participated in a Faculty Development Program (FDP) on "Robotics Control" conducted by Dept of Robotics & Automation, ASIET from 19/4/21 to 23/4/21
- Participated in a Faculty Development Program (FDP) on "Emerging Trends and Challenges in Low Power VLSI Design" conducted by the Department of Electronics and Communication Engineering, MBCCET, Peermade from 19th May to 21st May 2021

Aswathy N

- Participated in a Faculty Development Program (FDP) on Robotics and Control conducted by Dept of Robotics, ASIET from April 19-23
- Participated in a Faculty Development Program(FDP) on Deep learning for signal processing conducted by Dept of ECE, Sahrdaya College of Engineering and Technology from April 26-30

Divya V Chandran

- Participated in a Faculty Development Program(FDP) on Deep Learning for Signal Processing conducted by Dept. of Electronics and Communication Engineering, Sahrdaya College of Engineering and Technology, Kodakara, Thrissur from 26 th April to 30 th April 2021
- Participated in a Faculty Development Program(FDP) on "ROBOTICS & CONTROL" conducted by the Department of Robotics & Automation, Adi Shankara Institute of Engineering & Technology from 19/04/2021 to 23/04/2021

Neetha K

Participated in a Faculty Development Program (FDP) on "ROBOTICS & CONTROL" conducted by the Department of Robotics & Automation, Adi Shankara Institute of Engineering & Technology from 19/04/2021 to 23/04/2021

Arya Paul

Participated in a Faculty Development Program (FDP) on "ROBOTICS & CONTROL" conducted by the Department of Robotics & Automation, Adi Shankara Institute of Engineering & Technology from 19/04/2021 to 23/04/2021

Albins Paul

Participated in a Faculty Development Program (FDP) on "ROBOTICS & CONTROL" conducted by the Department of Robotics & Automation, Adi Shankara Institute of Engineering & Technology from 19/04/2021 to 23/04/2021

Anju George

Participated in a Faculty Development Program (FDP) on "ROBOTICS & CONTROL" conducted by the Department of Robotics & Automation, Adi Shankara Institute of Engineering & Technology from 19/04/2021 to 23/04/2021

Chinnu S

Participated in a Faculty Development Program (FDP) on "ROBOTICS & CONTROL" conducted by the Department of Robotics & Automation, Adi Shankara Institute of Engineering & Technology from 19/04/2021 to 23/04/2021

Jaimy James Poovely

Participated in a Faculty Development Program (FDP) on "Emerging Trends and Challenges in Low Power VLSI Design" conducted by the Department of Electronics and Communication Engineering, MBCCET, Peermade from 19th May to 21st May 2021

STUDENT ACHIEVEMENT AND PARTICIPATION

Student Batch	Name	Title of Course/Event attended	Conducted By	Date
S4 MTECH	SUMAN MENON	PAPER PRESENTATION ON INTERNATIONAL CONFERENCE:CUSTOM FACE RECOGNITION USING YOLO.V3	ICSPC(IEEE SPONSORED)	13/5-14/5
2019-23	PRANAV GOPAL	Video Editing	Internshala	09-05-2021
2019-23	RESHMI R	PYTHON FOR DATA SCIENCE	NPTEL	21-05-2021
2018-22	AUSHIN JOSE MANJOORAN	RPA Developer Foundation	UiPath	18-05-2021
2020-24	MEENAKSHI SHAJI	Evolutionary learning and it's engineering applications	IEEE student branch	21-05-2021
2020-24	RIYA BIJU	Evolutionary Learning And Its Engineering Application	IEEE Student Branch	21-05-2021
2020-24	PRESTEE ALPHS	Evolutionary learning and it's engineering applications	IEEE student batch	21-05-2021
2018-22	AISHA MEHRIN K I	RPA Developer Foundation	UiPath	18-05-2021
2019-23	VYSHNAV CJ	AWS Machine Learning (ML)	Course Era	23-05-2021
2019-23	SIDHARTH AJ	Getting started with AWS Machine Learning	Cousera	23-05-2021
2018-22	GOKUL V M	Nature-based Solutions for Disaster and Climate Resilience	United Nation Environment Programme (UNEP)	17-05-2021
2018-22	FARHAN NAJEEB	Workshop on PV solar energy using PV syst	IEEE PES Student Branch Chapter, NSS College of Engineering	29-04-2021
		Camp'21	IEEE IAS SBC RIT	23-04-2021
		Campus Ambassador for R2R:Road way to Robotics	IEEE RAS Kerala Chapter in association with TCS Rapid Labs	15-05-2021

EDITORIAL BOARD



Dr RAGESH G K
Head Of Department (HOD).
Department of Electronics and Communication Engineering



MS ANJANA S
Assistant Professor
Department of Electronics and Communication Engineering



MS NEETHA K
Assistant Professor
Department of Electronics and Communication Engineering



Ms Hridaya U Mallia S5 ECA Department of ECE



Ms Kavya G Padiyar S5 ECB Department of ECE



Mr Aravind Sreedhar S3 ECA Department of ECE



Mr Joyal Joy S3 ECB Department of ECE





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ADVANCES IN COMPUTING, COMMUNICATION, EMBEDDED AND SECURE SYSTEMS

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IEEE Kerala Section

CALL FOR PAPERS

ACCESS'21 encourages full paper article submission in futuristic next-generation technologoies related to but not limited to the topics listed. Papers will go through a rigorous review process by the technical programme committee and authors will be notified.

Topics include:

Cyber Physical Systems and IoT

Computer Science and Big data

Artificial Intelligence

Machine Learning

Block Chain

Data Analytics

Computing (Cloud, Cluster, Grid, Soft, Edge, Fog.

Quantum etc.)

Reconfigurable systems, MEMS/NEMS

Networking Protocols and communication (mm Wave technologies, cognitive radio, spectrum management,

WBAN, multi carrier, M2M communication etc.)

Signal and Image Processing

Cyber Security

Data Security/Information Assurance

Publication: IEEE Xplore

Full-length paper submission deadline:

May 30, 2021

Notification of acceptance:

July 01, 2021

Registration Fee due date:

July 15, 2021

Camera-ready submission deadline:

August 01, 2021

Conference dates:

September 02- 04, 2021

Submit the full paper here:

easychair.org/conferences/?conf=access21

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