ECE NEWSLETTER

ADITYA

ENLIGHTENS THE NESCIENCE

ADITYA COLLEGE OF ENGINEERING & TECHNOLOGY
ADB ROAD, SURAMPALEM - 533437
EAST GODAVARI, ANDHRA PRADESH

VISION

To emerge as a center of excellence in education and researach

MISSION

- To establish skill and learning centric infrastructure in thrust areas

- To develop Robotics and IOT based infrastructure Laboratories

- To organize events through industry institute collaborations and promote innovation

- To disseminate knowledge through quality teaching learning process

ABOUT ECE

 ECE department was established in the year 2004 with an intake of 60 students and now it has been expanded with an intake of 240 students. ECE plays a vital role in Technology Revolution. Our main aim is to generate new knowledge by engaging in cutting-in research to promote academic growth and to develop human potential to its fullest extent so that intellectually capable & imaginatively gifted leaders can emerge in a range of professions. We have Modern state of the art and well furnished labs like Microwave and Optical Communication Lab, Electronic Devices and Circuits lab, Modern Communication Lab, Research lab etc with excellent laboratory facilities and dedicated faculty.

The department's footprint is made visible by our distinguished alumni settled in major MNC's like Intel, Capgemini, CGI, TCS, CTS, Accenture, public sector companies and so on. The department strives to excel in focusing on the needs of the industry and society. In addition, the department enables training on advanced technologies through Texas Instruments Innovation lab, Robotics Lab etc and organizing workshops on IoT and Robotics. These laboratories provide platform for learning not only theory but also practical aspects. As we look into future, robots and embedded systems will be part of our lives very soon.

Dr RVV KRISHNA

Head of Department - ECE

NEVER GIVE UP

REMEMBER, THE BEGINNING IS ALWAYS THE HARDEST

Moral 1

In life, we may not get what we want very freely. But we should never give up. Continue working towards it, and one day, you will reach it.

There will be many roadblocks in your life that try to pull you down. But you have to face those hurdles and wait for the night opportunities.

When the moment comes, grab it with both hands and fly towards your dream.

Many of you have dreams and goals, like starting a business, being an athlete, or being a CEO. But it is not easy to achieve all these goals.

Moral 2

In the initial years, you have to put a lot of hard work and time into your goals. And the results may not be visible even after that.

But you should never give up. Just like the bamboo tree, you are building a stable foundation.

Once the base is strong, you will grow just like the bamboo tree and achieve your goals

Moral 3

The same boiling water that softened the potato hardens the egg.

In life, challenges come from different directions but, we should never give up on ourselves.

One day our life will be low, and the next day it will be high. It is up to us how we react to each situation. Don't think only about the negative side of your life.

Be Optimistic when the going gets tough, raise your level, and change like an egg.

Technology Trends

Nanosensors and the Internet of Nanothings

With the Internet of Things expected to comprise 30 billion connected dev ices by 2020, one of the most exciting areas of focus today is now on nanosensors capable of circulating in the human body or being embedded in construction materials. Once connected, this Internet of Nanothings could have a huge impact on the future of medicine, architecture, agriculture and drug manufacture.

Next Generation Batteries

One of the greatest obstacles holding renewable energy back is matching supply with demand, but recent advances in energy storage using sodium, aluminium and zinc based batteries makes mini-grids feasible that can provide clean, reliable, round the clock energy sources to entire villages.

The Blockchain

Much already has been made of the distributed electronic ledger behind the online currency Bitcoin. With related venture investment exceeding $1 billion in 2015 alone, the economic and social impact of blockchain's potential to fundamentally change the way markets and governments work is only now emerging.

2D Materials

Graphene may be the best-known, single-atom layer material, but it is by no means the only one. Plummeting production costs mean that such 2D materials are emerging in a wide range of applications, from air and water filters to new generations of wearables and batteries.

Autonomous Vehicles

Self-driving cars may not yet be fully legal in most geographies, but their potential for saving lives, cutting pollution, boosting economies, and improving quality of life for the elderly and other segments of society has led to rapid deployment of key technology forerunners along the way to full autonomy.

Organs-on-chips

Miniature models of human organs – the size of a memory stick – could revolutionize medical research and drug discovery by allowing researchers to see biological mechanism behaviours in ways never before possible.

Perovskite Solar Cells

This new photovoltaic material offers three improvements over the classic silicon solar cell: it is easier to make, can be used virtually anywhere and, to date, keeps on generating power more efficiently.

Open AI Ecosystem

Shared advances in natural language processing and social awareness algorithms, coupled with an unprecedented availability of data, will soon allow smart digital assistants help with a vast range of tasks, from keeping track of one's finances and health to advising on wardrobe choice.

Optogenetics

The use of light and colour to record the activity of neurons in the brain has been around for some time, but recent developments mean light can now be delivered deeper into brain tissue, something that could lead to better treatment for people with brain disorders.

Systems Metabolic Engineering

Advances in synthetic biology, systems biology and evolutionary engineering mean that the list of building block chemicals that can be manufactured better and more cheaply by using plants rather than fossil fuels is growing every year.
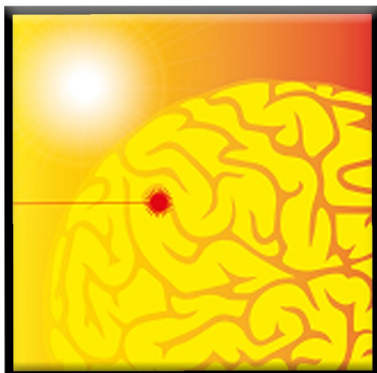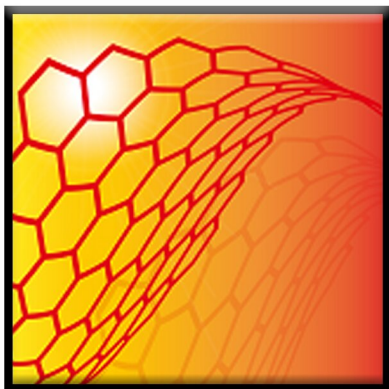
Faculty Articles & Publications

Artificial Intelligence: Roadmap to Good Governance

Artificial Intelligence has the potential to improve governance in terms of accountability, citizen engagement and interoperability. The Indian government has been cottoning on to the benefits of AI since the turn of the last decade. In 2020, the Centre increased the outlay for Digital India to $477 million to boost AI, IoT, big data, cybersecurity, machine learning and robotics.

Social welfare schemes

The biggest challenge with public welfare schemes is reaching the right people at the right time. In countries with a huge population like India, this becomes even more challenging. AI-powered systems can, however, increase the reach of such programs. For instance, in the government mid-day meal scheme, machine learning and supply chain management could predict the inventory and process automation technology can ensure food reaches the beneficiaries on time.

Healthcare

The pandemic spotlighted the potential of AI in healthcare. AI can make public healthcare affordable and accessible via virtual assistance, research analytics, diagnostics, medical imaging analysis, mental health, assisted surgery, fraud detection, cybersecurity, among others.

Predictive policing and surveillance

Though the effectiveness and fairness of AI in predictive policing are still suspect, it has its upside if used judiciously. For instance, Palantir's law enforcement solution can conduct geo-searches around locations of interest and forecast where and when the next crimes may occur.

AI surveillance, where ML algorithms analyse images, videos, and data recorded on CCTVs, can help governments identify criminals. However, the ethical side of AI-powered surveillance is mired in racial profiling and human right violation cases. In fact, IBM has stopped developing or offering facial recognition technology for mass surveillance after massive backlash.

Documentation

This is the simplest way to adopt AI. This includes extraction and inputting of invoices, certificates, legal documents, and letters. Generating automated content with NLG can save a lot of time for the government employees, who can then focus on more important taska. AI makes it easy for translation of government records into multiple languages.

Military intelligence

Many countries have special departments or agencies that plan, initiate, and integrate AI capabilities into the military arsenal and develop new capabilities. The National Science and Technology Council in the US, the Strategic Council for AI Technologies in Japan, and the AI Council in the UK are a few examples. One common use of AI in the military is autonomous military drones, called Unmanned combat aerial vehicles (UCAV)

Predicting natural calamities

AI-powered systems can map the dryness of forests, predict wildfires, analyse the magnitude and patterns of earthquakes, record rainfall and flood simulations to predict flooding, use seismic data to predict volcanic eruptions and use satellite images to predict hurricanes. AI can help us in disaster preparedness and avert disasters force majeures can leave in its wake.

Dr D KISHORE
DEPT OF ECE

Blockchain Tech is the future

Blockchain is one of the most talked-about technologies in business right now. Blockchain tech has the potential to drive major changes and create new opportunities across industries – from banking and cybersecurity to intellectual property and healthcare.

How Blockchain Works

A blockchain is a decentralized database – an electronically distributed ledger or list of records that is accessible to various users. Blockchains use cryptography to log, process, and verify every transaction, making them secure, permanent, and transparent.

There are two general categories of blockchain:

--> Permissionless, which anyone can join
--> Permissioned, which requires participants to be authenticated by the person or group managing it (this category is further divided into private and community blockchain networks)

It is good to see the technology coming of age in India too, with the government making a move to set up a national blockchain framework to prepare a centralised ecosystem that will cover as many as 44 sectors including e-governance. Moreover, the move to leverage the potential of this emerging technology through a policy framework will bring India on a par with countries like China, the UAE, the US, Brazil, Chile, Canada, Singapore and Switzerland which have already made big leaps in the blockchain space. This technology is going to be the game-changer in the days to come. According to a Gartner report, many new innovative companies will use it and at least one business created using this advanced technology would be worth $10 billion by 2022. By 2030, it could be used as a foundational technology for 30 per cent of the global customer base.

By 2025, blockchain would add a business value that will grow to over $176 billion. This would increase further to $3.1 trillion by 2030. It simply shows the unfolding potential.

One of the finest points of the proposed framework is that the Ministry of Electronics and Information Technology (MeitY) has identified 44 key areas, almost every sector from pharma and farming to education and energy.

Among all these, e-governance will get the spur as the government has listed a long list of potential applications for fool-proof delivery of services to the citizens.

Digital certificate management, transfer of land records, pharma supply chain, e-notary services, e-sign solution, duty payments, automated customs enforcement and compliance, agriculture supply chains, e-voting, crypto wallet, health records, cross-border transports, public service delivery, charity donations, smart grid management, and vehicle registrations are just a few of them. As the data in the blockchain technology is near impossible to be tampered with, the trust and accountability of e-governance will be maintained.

The goals have been laid out clearly and the potential is captured well in the proposed policy initiative. The technology will store data in a decentralised, vigilant, time-stamped, immutable manner, providing an efficient ledger storage mechanism in a distributed environment.

A R AMA VASANTHA
Dept of ECE

1) P. SWARNALATHA,   DESIGN & IMPLEMENTATION OF MICROSTRIP ARRAY PATCH ANTENNA FOR 5G COMMUNICATION, ICACET 2021, OCT 22-23,2021

2) P. SWARNALATHA, A NOVEL ARDUINO BASED SELF DEFENSE SHOE FOR WOMEN SAFETY AND SECURITY, ICISSC 2021, SEP 24-25,2021

3) N.V. LALITHA, MACHINE LEARNING-BASED METHOD FOR RECOGNITION OF PADDY LEAF DISEASES, INTERNATIONAL CONFERENCE ON COMPUTATIONAL INTELLIGENCE AND SUSTAINABLE TECHNOLOGIES, 28TH -30TH OCTOBER, 2021, NIT SILCHAR & NIT SIKKIM, 978-981-16-6893-7, https://-doi.org/10.1007/978-981-16-6893-7_39

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5) M. DHANA LAKSHMI BHAVANI, ADA-BOOST LEARNING BASED RECOGNITION OF HAND GESTURE FOR DEAF DUMB WITH AMERICAN SIGN LANGUAGE (ASL), ICACET 2021, OCT 22-23,2021, ACET, SURAM-PALEM

6) M. DHANA LAKSHMI BHAVANI, DEEP CNN BASED MODEL FOR THE DETECTION AND CLASSIFICATION OF GLAUCOMA USING FUNDUS IMAGES, ICACET 2021, OCT 22-23,2021

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9) P.RAMESH KUMAR, A DEEP LEARNING BASED AUTONOMOUS ATTENDANCE SYSTEM, ICACET 2021, OCT 22-23,2021

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10) VENKATA LALITHA NARLA, BCH ENCODED ROBUST AND BLIND AUDIO WATERMARKING WITH TAMPER DETECTION USING HASH, MULTIMEDIA TOOLS AND APPLICATIONS, 1573-7721, HTTPS://-DOI.ORG/10.1007/S11042-021-11370-5

11) DR. VIVEK RAJPOOT, CROSS LAYER DESIGN BASED HYBRID MAC PROTOCOL FOR COGNITIVE RADIO NETWORK, PHYSICAL COMMUNICATIONS, 1874-4907, SCIE, HTTPS://DOI.ORG/10.1016/J.PHY-COM.2021.101524

13) DR. VIVEK RAJPOOT, HYBRID COMMON CONTROL CHANNEL BASED MAC PROTOCOL WITH PROAC-TIVE HANDOFF SCHEME IN COGNITIVE RADIO NETWORK, WIRELESS PERSONAL COMMUNICATION, 0929-6212, SCIE, HTTPS://DOI.ORG/10.1007/S11277-021-09092-W

14) DR. VIVEK RAJPOOT, WIDE DUAL BAND ASYMMETRICAL I-SHAPE RECTANGULAR MICROSTRIP PATCH ANTENNA FOR PCS/UMTS/WIMAX/IMT APPLICATIONS, WIRELESS PERSONAL COMMUNICA-TION, 0929-6212, SCIE, HTTPS://DOI.ORG/10.1007/S11277-021-08962-7

Dr. A B SIDDIQUE

Book Chapter : "Nano-inks in security and defense applications"
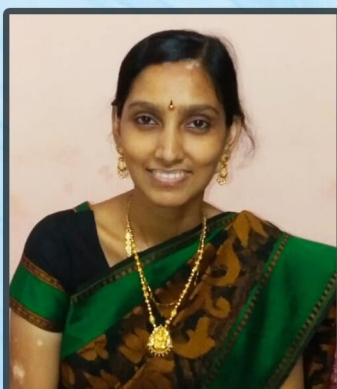
PUBLISHER : ELSEVEIR

Author : MAIN

Dr. T S KARTHIK

Book Chapter : "The internet of Things - Case study and its Applications"

PUBLISHER : SIPH

Author : SECOND

Dr. N V LALITHA

Book Chapter : "Layered Architecture and Issues in 6G"

PUBLISHER : CRC PRESS

Author : SECOND

PHD

LEVEL COMPLETE

Dr. D . KISHORE M.Tech., Ph.D

ASSOCIATE PROFESSOR

DEPARTMENT OF ECE

UNIVERSITY : JNTU KAKINADA

GUIDE : Dr. CH SRINIVASA RAO

THESIS TITLE : "DEVELOPMENT AND PERFORMANCE EVALUATION OF CONTENT BASED IMAGE RETRIEVAL ALGORITHM"

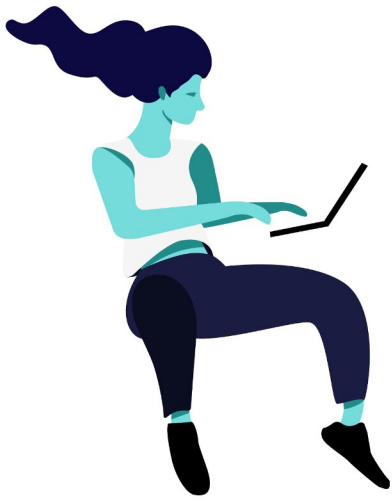**Dr. VIVEK RAJPOOT M.Tech., Ph.D**

ASSISTANT PROFESSOR

DEPARTMENT OF ECE
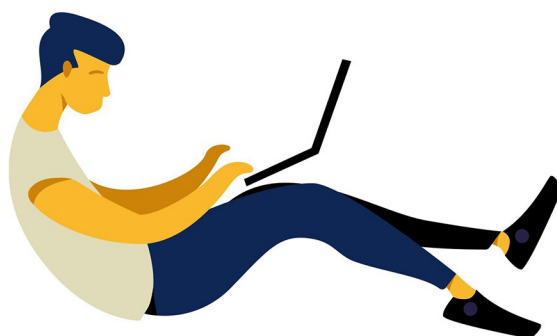
UNIVERSITY : MNIIT ALLHABAD

GUIDE : Prof V S TRIPATI

THESIS TITLE : "NOVEL APPROACHES OF DETECTION, HANDOFF AND HYBRID MAC PROTOCOL IN COGNITIVE RADIO NETWORKS"

Selection and Placement

CLASS TOPPERS

D M KUMAR SWAMY
20P31A04D3
SGPA 8

D HARSHA
20P31A04J4
SGPA 8

M BHAVANI DEVI
19P31A04G5
SGPA 8.14

N VIJAYA SAI
19P31A04M8
SGPA 7.79

A SRI SAHITHI
18P31A04C2
SGPA 8.62

P D LAKSHMI
18P31A04L9
SGPA 8.38

Congratulations!

S V V RAMYA
18P31A04M8

S CAROLINA
18P31A0470

HEXAWARE

K SAI LAXMI
18P31A0421

CHANDRA PAVAN
18P31A0446

ADP

N JAYAKRISHNA
18P31A0435

SAI DATTU
19P35A0418

TESSOLVE
A HERO ELECTRONIX VENTURE

Congratulations!

N JAYAKRISHNA
18P31A0435

N BINDU
18P31A0439

M PRAJWALA
18P31A0447

HARI VAMSI
18P31A0448

S SOWJANYA
18P31A04G5

V KANCHANA
18P31A04H5

BOSCH

73 DXC SELECTIONS

18P31A0407	Manojna Srikari Bhupathiraju	18P31A04D6	Varun Kumar Gunuru
18P31A0409	Lakshmi Pavani Biruda	18P31A04E1	Satya Surya Ramya Durga Chandu Kavala
18P31A0410	Madhuri Chikatla	18P31A04E7	Victor Rajesh Kota
18P31A0412	Datla V S N D Namratha	18P31A04E9	Mangam surya JYOTHI
18P31A0413	Akhila Devulapalli	18P31A04F2	Mathamsetti Sai Ramesh
18P31A0421	Tejaswi Sai Lakshmi Kaki	18P31A04F5	REKHA SRI RANI NERELLA
18P31A0423	N V S S Gowri Shankar Kandukuri	18P31A04F6	NETHI LAVANYA
18P31A0424	Sai Santhoshi Kiran Knate	18P31A04F9	Amrutha Penkey
18P31A0426	Gayatri Lokesh Kommireddy	18P31A04G3	Ranjan Basak
18P31A0428	poorna chandra sekhar kumpatla	18P31A04G5	Vineela Sowjanya Sabbella
18P31A0434	Naga Nikhila Appala	18P31A04G8	Surya Prakash Sangisetti
18P31A0435	Nagam Jayakrishna	18P31A04G9	gowsia shaik
18P31A0436	Ramya Sri Nallamilli	18P31A04H2	Thakkasila Vaibhav
18P31A0439	Hima Naga Bindu Narni	18P31A04H5	KANCHANA VELAGA
18P31A0442	Aiswarya Nuka	18P31A04H6	sri gayatri bhanumathi devi yadlapalli
18P31A0447	Prajwala Motupalli	18P31A04H8	Yarramsetti satyasai
18P31A0448	Siva Mani Subrahmanya Hari Vamsi Pullipudi	18P31A04I1	Naga Surekha Akkireddi
18P31A0452	MANOJ ANAND SUNKARA	18P31A04I2	SATYA ANUSHA AMAJALA
18P31A0455	anitha sowjanya tolum	18P31A04J2	BOPPANA VYSHNAVI
18P31A0457	Prasanthi vallabhasetti	18P31A04J5	Ravi chandana Devireddy
18P31A0461	Abhay kumar	18P31A04L1	maroju janardhan rao
18P31A0465	Rupa Sai Sri Chintam	18P31A04L4	Jaya suma Mutti
18P31A0466	HARI HARA NANDANA REDDY CHINTHAPALLI	18P31A04L5	SAI KUMAR NARKEDIMILLI
18P31A0469	GADHI VEERA VENKATA RAMANA	18P31A04L9	Durga Lakshmi Pemmanaboina
18P31A0478	Tanmai Sree Kella	18P31A04M0	meher gayatri putta
18P31A0497	Sri Lakshmi Bharani Nakkilla	18P31A04M3	MOHITH BABU REDDY
18P31A0498	Sukanya Nalamothu	18P31A04M4	Avinash Rednam .
18P31A0499	mahalakshmi nam	18P31A04M5	Salagrama Mani Gowtham
18P31A04A2	Anusha Pemmanaboidi	18P31A04N1	Rajeswari Thota
18P31A04B0	Rishi Kiran Talluri	18P31A04N4	TUMMURI AMRUTH REDDY
18P31A04B1	Tamalampudi Deepak Reddy	18P31A04N5	Sivani G P Lakshmi Velchuri
18P31A04B2	Tirumalasetti Padma Priya	18P31A04N6	voleti sai surya madhuri
18P31A04B3	Aishwarya Uma S V Vishnu Tirumanadham	19P35A0417	Avasarala Venkata Jaga Sai Nikhil
18P31A04B7	Yelisetti Venkatesh	19P35A0418	Sai Dattu Dondapati
18P31A04B8	Sridevi Naga Sai Yerra	19P35A0420	Veerendra guturu
18P31A04C2	Sri Sahithi Akella	19P35A0425	Mohammed Amina Begum
18P31A04D2	Venkata Prakash Duppalapudi		

18P31A0404	ALLURI B BHARATH KUMAR VARMA
18P31A0406	BANDARU VEERA CHANDRA SEKHAR
18P31A0429	KURMADASU VEERA BHADRA SAI SREE KUMAR
18P31A0441	NISHANT KUMAR
18P31A0446	PINAPATRUNI VENKATA CHANDRA PAVAN
18P31A0467	CHUNDRU SINDHU
18P31A0470	GANDURI RAAJITHA SHALOM CAROLINA
18P31A0473	INGUVA V SUNDARA LALITHA SOWDHA SOWMYA
18P31A0485	LAKKOJU V V NAGA SRI CHARAN
18P31A0491	MODUKURI NAGA LAVANYA
18P31A0494	MUTHYAM SURYA BHASKAR
18P31A0495	MUTYALA RAMYA DEVI
18P31A04A5	RISHABH SINHA
18P31A04B4	UNGARALA VINAYKUMAR
18P31A04B5	VELAMPALEPU ROHIT ANJANI KUMAR
18P31A04C1	ADABALA VEERA VENKATA SIVA SAI SWAROOP
18P31A04D0	DASARI CHANDRA MOULI
18P31A04G4	SABBELLA URMILA
18P31A04H0	SHAVUKARU UDAY KUMAR
18P31A04H7	YALLA RAKESH
18P31A04I9	BIKKINA MANIKANTA
18P31A04K3	KATARI ATCHUTHA SAIRAM
18P31A04K8	MALLADI PAVAN KALYAN
18P31A04L6	PACHIMALA SRIJA
18P31A04M2	RAYUDU SATYASAI DURGA HEMANTH
19P35A0412	KATARI SAI ATCHUTH
19P35A0413	PEDAPALLI ROHINI

Mphasis
The Next Applied

27

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