ece news SYNCOM

A Voice Of Electronics And Communication Engineering

KKR&KSR INSTITUTE OF TECHNOLOGY & SCIENCES |ECE DEPARTMENT |2017

Kasi +Krushi = **Rushi**
"Content is KING"

Editors: Dr. M.Siva Ganga Prasad HOD-ECE & **Mr. M.Sudhir**

Advisory Board	*Student Coordinators*
Prof. C. Satyanarayana	Mr.K.Balaji
Mr. T.Bala Krishna	Ms.V.Naga Ramya
Mr. P.Ashok Babu	Ms.B.Sai Anjani
Mr. A.Sarath	Mr.G.Saketh

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About the Department:

A resolution inspired by the growth in communication technologies has the potential to transform the country. Department of Electronics & Communication Engineering (ECE) promised to the part of it. Department has been postured in terms of very efficient and effective human resources and state the art of equipment in the different laboratories. The basic philosophy of teaching and learning process of the Department is based on the concept. All the perception of truth is detection of an analogy. The immense strength of the department lies in its teaching faculty who are prepared readily to adapt to the requirements of the students. Students are encouraged to participate in various Co and Extra-curricular activities through Department IEEE Student Chapter, Student Association SPACE. Professors also inculcate the research culture among the student's through funded research projects, innovative designing of the Electronic Circuits and publishing of the papers in reputed journals. Department is treasured by committed teaching faculty with 6 Ph.D holders and lot many are pursuing.

Department Vision

Developing highly Qualitative, Technically Competent and Socially Responsible Engineers.

Department Mission

To provide quality education in the domain of Electronics and Communication Engineering through

- Enriched curriculum for addressing the needs of Industry.
- Effective teaching learning processes through congenial environment.
- Gaining contemporary knowledge through research,

RISING TO THE ACCELERATION CHALLENGE

Artificial Intelligence (AI) and deep learning is the future of computing. Intelligent machines that understand the world as humans do, interpret our languages and learn from data will habitually be used to resolve problems too complex for the human brain.

But progress in AI is being blocked by the simple lack of computing power. While scientists are building advanced algorithms, they do not yet have the hardware necessary to train machines on these algorithms nor for machines to execute the algorithms and apply their learning to new data. Although DeepMind's AlphaGo algorithm famously outsmarted the world's best Go player last year, it reportedly required 1202 CPUs and 176 GPUs (or in fact, Google's own TPUs) to do so – not exactly practical.

New solutions to hardware acceleration are required, so what is it about AI that requires a new approach to computing power and what are the possible options?

Basic forms of AI can function on traditional processors; for instance, IBM's Watson runs on a combination of power processors, GPUs and CPUs. Although Watson is often held up as the pinnacle of AI development, its functionality is limited to finding patterns and insights hidden in data. IBM is already looking to far more powerful processors to provide answers to questions where there is insufficient data to find patterns and the number of potential permutations is too vast to be processed by classical computers.

Deep learning is a new software model that requires a different type of computer platform. In deep neural networks, algorithms learn from data and examples, but effectively write their own software. This

means software-neurons and connections must be trained in parallel, rather than sequentially.

Advances in CPUs have slowed and the marginal gains being delivered will not be sufficient to run deep neural networks effectively. A processing model is needed that can execute programmer-coded commands and the parallel training of deep neural networks.
Three approaches have emerged to meet the hardware acceleration challenge- Graphics processing, Tensor processing unit and FPGA

By
Mr. T.Bala Krishna
Assistant Professor

ULTRASONIC NAVIGATION SYSTEM FOR BLIND PEOPLE

This project is built to aid the blind so that they may walk easily in urban areas and avoid obstacles using special detection sensors. This system uses a microcontroller coupled with an output buzzer to alert the concerned. The system is fitted with ultrasonic sensors. The system guides and alerts the blind person of walking route and also alerts others about person at night through led's fitted with it .

The ultrasonic sensors fitted with the system provides obstacle data to the blind person so that he/she may avoid them . The LDR circuit coupled with LED lets other people and vehicles aware about the blind person in the dark. A microcontroller does all the work of detecting ultrasonic signals and sending back respectively messages to the blind person. Thus the system provides complete guidance and protection to a blind person under various circumstances.

By
Ms.V.Naga Ramya
IV ECE-3

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WORKSHOP ON ASIC

The ECE association *SPACE* conducted a **"Guest Lecturer"** on **"ASIC Design and Testability"** on 11**th, October, 2017** from 11.00 AM to 12.30 PM in the Seminar Hall. **Mr.Avinash Yadlapalli** is resource person for this lecture. This lecture is conducted to get the awareness among the students towards ASIC Design.

He explained "An ASIC (application-specific integrated circuit) is a microchip designed for a special application, such as a particular kind of transmission protocol or a hand-held computer. You might contrast it with general integrated circuits, such as the microprocessor and the random access memory chips in your PC."

Main objective of this guest lecture was to provide, Awareness to the students with the Industry level ASIC and FPGA design flow, ASIC Design Flow using Industry standard tools Explain the various steps involved in ASIC design flow, Analyze the role of FPGA Design and test bench in functional simulation environment, Steps of Designing Application for FPGA.

He explained

- What is Semiconductor?
- What is an ASIC
- Front end Design Flow
- Functional Simulation
- HDL synthesis
- Design implementation
- Testing Basics

He gave the brief information about the VLSI industries present in INDIA like ntel, Nvidia, Qualcomm, Broadcom -> Now Avago, Texas Instruments (TI), AMD, ARM….. etc. He shared his email and Contact number with students for any help. Finally Guest is honored by the Dr. Siva Ganga Prasad, HOD ECE dept.

Faculty Motivational Seminar:

Dr.Murali Krishna KVSG

Principal
University College of Engineering
JNTUK
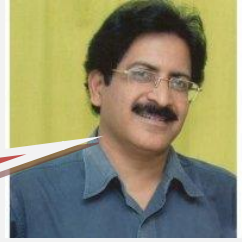
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On 17th October 2017 Tuesday at 4.00 PM all faculty of Electronics and communication Engineering attend for the Speech of Dr. KVGS Murali Krishna along with other department faculties. He is a member SEAC Appraisal Committee, AP, MoEF of India and Expert in HPCSAC, Govt. of AP

He explained the student teacher interaction. He explained

I. Don't start the Subject directly

According to the speaker give the knowledge of general things and current affairs at least for 5 minutes, before the starting of the class.

II. Para Phrasing

In the class if one student have the doubt on a topic then clarify that doubt in front of total class.

III. MILC

MILC means most Important Learning of the class. Speaker suggested the faculty members, not to close the class suddenly. Allocate the last ten minutes of the class for revision

IV. Break and Spell

According to the speaker we can get the meaning of a unknown word by spelling part by part

V. Board Management

Student can learn anything by **Observe, Absorb and Apply**. So we have to maintain the board neatly because *a student always imitates a teacher.*

VI. You are what you express

Expression with clarity is required while delivering a lecture.

- **LOGOS (Quantitative Expression)**
- **PATHOS (Feelings)**
- **ETHOS (Personality)**

FDP on

INTELLIGENT ELECTRONIC SYSTEM DESIGN USING BIO INSPIRED ALGORITHMS

The ECE department of KITS and E&ICT ACADEMY NATIONAL INSTITUTE OF TECHNOLOGY, WARANGAL conducted a one week Faculty Development Program on "**INTELLIGENT ELECTRONIC SYSTEM DESIGN USING BIO INSPIRED ALGORITHMS**" on 28th OCT – 2nd NOV, 2017 from 9.00 AM to 5.00 0 PM in the Seminar Hall. Prof. P.Siddaiah, Dean, ANU College of Engineering & Technology is the chief Guest for this FDP.

ABOUT PROGRAM:

Bio inspired intelligent algorithm (BIA) is a kind of intelligent computing method, which is with a more lifelike biological working mechanism than other types. BIA's has made significant progress in both understanding of the neuroscience and biological systems and applying to various fields.

Emerging and evolving systems are integrating intelligent attributes to enable the thrust towards making technology adaptive and functional as an aid to improve existing designs. Intelligent system integrates different techniques of genetic algorithms, artificial immune systems, particle swarm optimization, and hybrid models to solve many real-world problems. Now a day's main challenge in data driven problem is getting optimal solutions in time, which can be overcome by application of bio-inspired algorithms. Bio-inspired algorithms are always research topics in artificial intelligence communities. This FDP provides theoretical and practical knowledge on the design and implementation of intelligent systems related to areas of electronic systems,

communication, computer vision, mechanical systems, soft computing and related issues.

Day 01 (28.10.2017)

As a mark of our tradition and culture, the dignitaries lighted Lamp. The workshop is started with opening remarks of **Dr. Siva Ganga Prasad** . Later Miss. P.Jwalitha of ECE Department shared the few words about **Prof. P.Siddaiah, Dean,** ANU College of Engineering & Technology.

It was followed by delivering a few messages by the HOD, Vice Principal, Secretary,Chairman, Dr. J. Ravikumar and the chief Guest. After the message of Prof. P.Siddaiah, Dean, ANU College of Engineering & Technology, he was honored by the Chairman Sir with a Shalv and Memento

The first resource person in this FDP was **Dr. J. Ravi Kumar, Asst. Prof, ECE Dept**. NITW started his discussion with the very basic idea of concept. He started **Genetic Algorithm and Particle swarm optimization**. He started Genetic algorithm with the description of Population, Selection, Cross over, Mutations and termination along with examples. He explained Adaptive Algorithm about system identification with examples. In the afternoon session he explained Channel equalization using PSO. Next a lab session was conducted.

Day 02 (29.10.2017)

An informative lecture on "**Teaching-Learning-Based Optimization (TLBO) Algorithm**" was discussed by Dr. J. Ravi Kumar, Asst. Prof, ECE Dept.. He said "Teaching-learning-based optimization (TLBO) is a population-based algorithm which simulates the teaching-learning process of the class room. This algorithm requires only the common control parameters such as the population size and the number of generations and does not require any algorithm-specific

control parameters. In this session participants were learned the step by step procedure and different phases regarding TLBO.
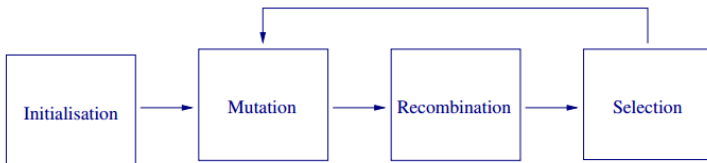
The working of TLBO is divided into two parts,

- Teacher phase
- Learner phase

Day 03 (30.10.2017)

Prof. **Swagatam Das, ISI, Kolkata,** has illuminated on "Deferential Evaluation (DE)".In this session participants were gained with the knowledge of the on Optimization.

He explained

- The Basics of Differential Evolution
- Why use Differential Evolution?
- Evolutionary Algorithms
- Initialization
- Mutation
- Recombination
- Selection

He explained DE with one problem statement, Minimization fitness of function. He inspired the participants to work on real time Technology and also gave some guidelines for this.

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Day 04 (31.10.2017)

       Prof. Swagatam Das, ISI, Kolkata, has delivered note on "benchmarking of optimization Algorithms on day 04.38 Participants Actively participated in the session. In the afternoon session he explained how to publish papers in Reputed SCI journals. At the end of the session the speaker was honored by the HOD sir with a Shalv and Memento.

FACULTY ACHIEVEMENTS

Congratulations to **Dr. M.Vasim Babu** for successfully completing degree of PhD! in ANNA UNIVERSITY, Chennai, Tamil Nadu.

He awarded with PhD for his research on" *Localization Wireless Sensor Networks Using Discrete Power Control"*. Indeed you should consider this as one of your greatest achievement in life. Your area of specialization *"Information and Communication Engineering"* is one that is not pursued by many. You have shown remarkable courage and brilliance. Congratulations for completing your PhD.

Mr.E.Venkata Narayana Registerd for Ph.D Prgrammme in **Veltech University**. Congratualtion for your future and best wishes as you begin an exciting new phase of life.

Mrs. T.Bhavani attended for a workshop on " Advance Antenna Design" in VVIT, Guntur.

INTERNATIONAL SYMPOSIUM ON INTELLIGENT SENSING SYSTEMS-2017

14th-16th, November, 2017
organized by
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
KKR & KSR INSTITUTE OF TECHNOLOGY AND SCIENCES
(ACCREDITED BY NAAC WITH 'A' GRADE)

About the Symposium:

The International Symposium on Intelligent Sensing Systems 2017 (ISISS 2017) will take place during14-16, November, 2017 in KKR&KSR Institute of Technology and Sciences (KITS), Guntur, A.P., India. The theme of the ISISS 2017 symposium is "Sensors Serve for Humanity", reflecting the ever growing interests in research, development and applications in the dynamic and exciting area of sensors, such as aerospace, biomedical, communications, defense, genomics, heath care, nano technology, signal processing, and allied applications. The ISISS 2017 promises to be a great event for researchers and scholars in signal processing and robotics communication areas, with attractive technical and social programs.

KITS *KKR & KSR Institute of Technology & Sciences*
(Approved by AICTE New Delhi, Affiliated to JNTU Kakinada, Accredited by NAAC with "A" Grade)
Department of Electronics And Communication Engineering