

MATRIX 360°-2018

A Technical Magazine



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Department of Electronics and Communication Engineering
SRI INDU COLLEGE OF ENGINEERING & TECHNOLOGY
HYDERABAD



Sri. R. Venkat Rao, M.A.,B.Ed.

CHAIRMAN

Message from Chairman

It gives me joy unspeakable to affirm that Sri Indu group of institutions, having completed 39 years successfully, has grown into one of the best institutions in the one of the leading Groups in Hyderabad, Telangana. Our Institute is an Autonomous Institutions under UGC, Recognized under 2(f) and 12(B) of UGC Act 1956, approved by the All India Council of Technical Education (AICTE), NBA Accredited, NAAC in pipeline and An ISO 9001 : 2000 Certified College and Permanently Affiliated to JNTUH.

As everyone is aware of the fact that there is unprecedented advancement in the academic research and industry. Without an iota of doubt, it is to be admitted that the field of engineering and technology has undergone radical changes. That the sound engineering education is synonymous with a better standard of living has become a catchy adage of the day. Besides the acquisition of technical skills, the need of getting oneself familiarized with soft skills like communication skills, organizational skills, crisis management skills, public relations skills, etc., has gained appreciable momentum.

I am quite sure that Sri Indu is not only getting the students prepared for the potential job market but also instilling in them much needed enthusiasm even to work for the nation to meet the social aspirations of our country. I strongly believe that the engineers of today, by their innovation ideas, with their problem-solving attitude and of course, with the humanitarian bent of mind, can establish a better world where people of all nations may live in harmony and peace. By and large, I express my deep sense of commitment for the overall developments of the student community of my institute.

About Chairman

- A dedicated and dynamic personality.
- Pioneer to introduce novel Scholastic methods in the school and the hearts of parents and public.
- He is in Education field since 1979.
- Foresees a “Vision Ahead”. Always struggles to impart better education.
- Awardee by the Govt. of Andhra Pradesh in 1992
- Recipient of “Bharath Jyothi “ Award by his excellency, the President of India, Sri Gnani Zail Singh in 1994.
- Chairman of V.V.Info Business Service (India) Ltd., Hyderabad.



Sri. R. Anup Chakravarthy

SECRETARY & CORRESPONDENT

Message from Secretary

It is my personal observation that the students are perhaps at the most difficult crossroads of their life after their intermediate examinations. The decision they make at this juncture is going to have a long lasting impact on their future life and career. A competent, qualified, experienced and responsible head of the institute can only operate with a vision towards development of an institution.

It is an much instrumental as the engine of train. Our well-equipped laboratories such as laboratories with the computers having high-end configuration, the internet facility, Wi-fi enabled Campus state of the art library with national and international journals and magazines certainly create a congenial ambience for an ideal engineer in the making to grow.

I am really happy that despite slowdown of economy, Sri Indu has succeeded in bringing various good companies to its campus for placements. All in all, more than 589 students have been placed through campus placements till date during the academic year 2017-18.

Sri Indu Group believes in Bridging Gap between Industry & Research of the students who joined so as to make them apt for facing the challenges of industry and society. I invite you to join Sri Indu and begin your journey to successful and secured future.

About Secretary

- The present Secretary & Correspondent of the Sri Indu Group of Educational Institutions.
- He is a young and energetic personality.
- Obtained his Masters in Electrical & Electronics Engineering from U.K.
- He has learnt managerial skills from his father Sri.R.Venkat Rao

VISION

To be a premier Institution in Engineering & Technology and Management with competency, values and social consciousness.

MISSION

IM1: Provide high quality academic programs, training activities and research facilities.

IM2: Promote continuous Industry-Institute interaction for employability, entrepreneurship, leadership and research aptitude among stakeholders.

IM3: Contribute to the economical and technological development of the region, state and nation.

www.eriindia.ac.in

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

DEPARTMENT VISION

To be a centre of excellence in Electronics and Communication Engineering Education and to produce professionals for ever-growing needs of society.

DEPARTMENT MISSION

DM1: To promote and facilitate student- centric learning.

DM2: To involve in activities that enable overall development of stakeholders.

DM3: To provide holistic environment with state-of-art facilities for students to develop solutions for various social needs.

DM4: Organize trainings in embedded systems with Industry interaction

PROGRAM EDUCATIONAL OBJECTIVES (PEOS)

PEO 1: Higher Degrees & Professional Employment:

Graduates with ability to pursue career in core industries or higher studies in reputed institution.

PEO 2: Domain Knowledge:

Graduates with ability to apply professional knowledge/skills to design and develop product or process.

PEO 3: Engineering Career:

Graduates with excellence in Electronics and Communication Engineering along with effective inter-personnel skills.

PEO 4: Lifelong Learning:

Graduates equipped with skills in recent technologies and be receptive to attain professional competence through life-long learning.

PROGRAM SPECIFIC OUTCOMES (PSOs)

PSO 1: Basic Electronic and communications knowledge:

Apply basic knowledge related to electronic circuits, VLSI, communication systems, signal processing and embedded systems to solve engineering/societal problems.

PSO 2: Design Methods:

Design, verify and authenticate electronic functional elements for different applications, with skills to interpret and communicate results.

PSO 3: Experimentation & Communications:

Engineering and management concepts are used to analyze specifications and prototype electronic experiments/projects either independently or in teams.

POS	PROGRAM OUTCOMES STATEMENTS
PO1	Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO2	Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
PO3	Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
PO4	Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
PO5	Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
PO6	The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
PO7	Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
PO8	Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO9	Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO10	Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
PO11	Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and

	in multidisciplinary environments.
PO12	Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

RESEARCHERS VIEWS AND DIRECTIONS

AI, 5G, AND THE IOT WILL ALLOW FACTORIES TO PRODUCE NEW GOODS ON THE FLY

By Stacey Higginbotham

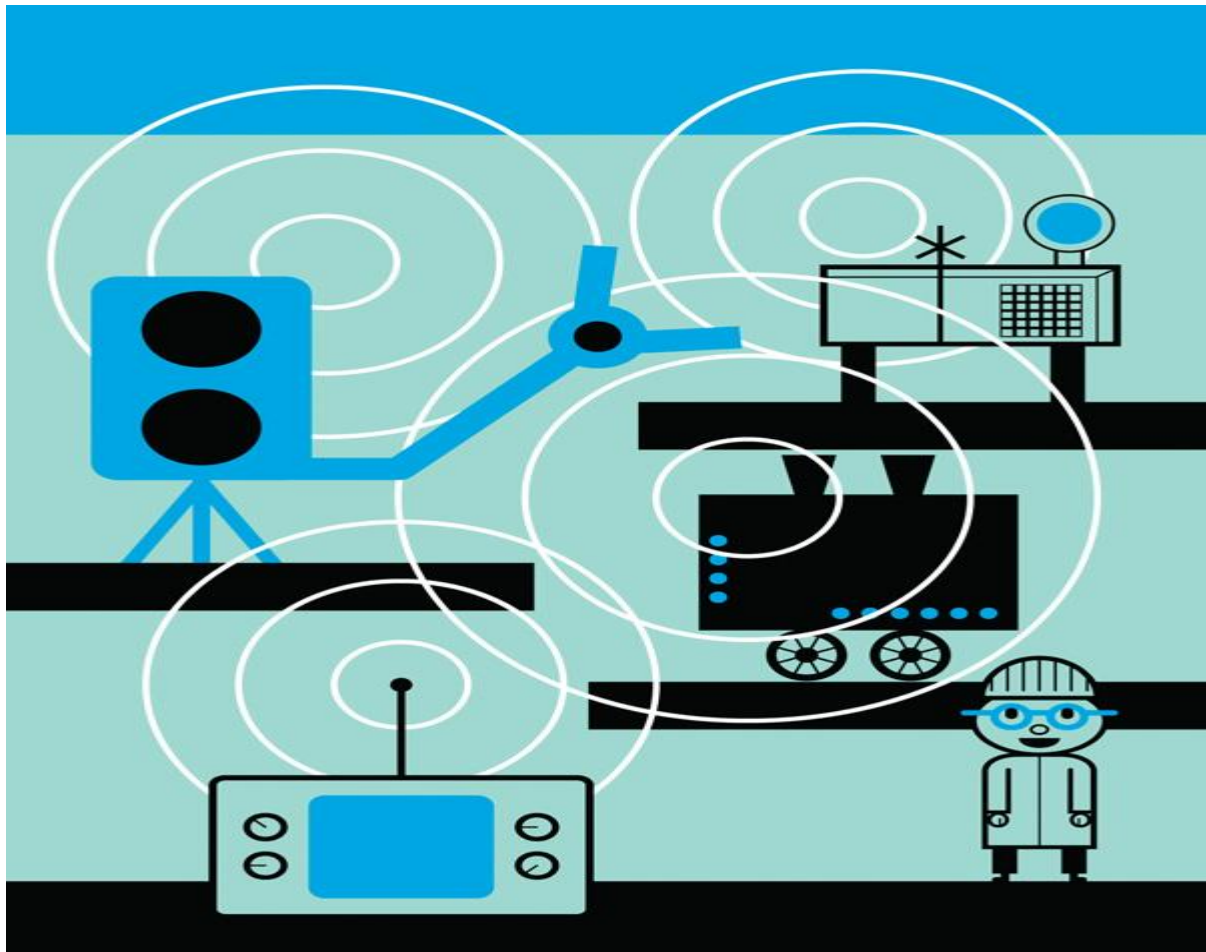


Illustration: JD King

The future of manufacturing is software defined. You don't have to look further than ABB to understand why companies are turning to 5G networks, artificial intelligence, and computer vision. The Swiss company is using these new tools to boost reliability and agility in its nearly 300 factories around the world, which produce a host of goods, from simple plastic zip ties to complex robotic arms. For ABB and other companies pushing software-defined networking, it's all about being safer while adapting to a growing clamor for personalized products.

When it comes to safety, adding more sensors to machines and deploying AI can make the end product more consistently reliable. At its Heidelberg factory, for example, ABB makes circuit breakers. But even with 99.999 percent reliability at ABB's factory, faulty circuit breakers would still kill 3,000 people a year, according to Guido Jouret, the company's chief digital officer. People can't achieve 100 percent reliability when making and inspecting the completed circuit breakers—but a camera with machine learning can. When that camera detects any sort of variation, factory managers can go back to the machine to figure out what's causing that defect. Boosting safety and reliability isn't exactly news to anyone who has followed the adoption of Japanese Kaizen or Six Sigma manufacturing, efforts to improve reliability and reduce waste, in the automotive industry. But adding automation and robots is becoming more important today as our culture increasingly wants customized products. These so-called lean-manufacturing methods allow factory managers to reconfigure their production lines on the fly.

“It's not always about being more efficient,” Jouret says. “It's about being more agile.”

Kiva Allgood, the head of Internet of Things and automotive at Ericsson, calls the shift from efficiency to agility a move away from economies of scale toward an economy of one. In other words, the inefficiencies traditionally associated with making low

quantities of goods will no longer apply. She saw this change coming as an executive at General Electric. Now she's working on the wireless technology that will help make this possible. But before we can reprogram the factory floor, we have to understand it. That starts with individual machines. We'll need manufacturing equipment with sensors measuring both the machine's work and the machine's health. This is the stage where many manufacturers are today. The factory should also have sensors that provide context to the overall environment, including temperature, workers' movements, and more. Armed with that understanding as well as computer-vision algorithms designed to detect flaws in the manufactured product, it will become possible to quickly repurpose robots to make something new. Perhaps more interestingly, future agile factories will remove the wires littering factory floors. Historically, factory automation has meant building a rigidly defined manufacturing line dictated by the robots making the product. But with developing tech, factories will free those robots from their data and power wires, and replace the wires with low-latency wireless 5G networks. Then, factories can turn days-long reconfiguration efforts into an overnight project. By emphasizing agility over efficiency, the factories of the future will be able to turn on a dime to meet the demands of our fast-paced society.

ROBOTIC ANIMAL AGILITY

Packed with sensory systems and equipped with revolutionary joints, the ANYmal robot is perfectly at ease on even the roughest terrain

An off-shore wind power platform, somewhere in the North Sea, on a freezing cold night, with howling winds and waves crashing against the impressive structure. An imperturbable ANYmal is quietly conducting its inspection. ANYmal, a medium sized dog-like quadruped robot, walks down the stairs, lifts a “paw” to open doors or to call the elevator and trots along corridors. Darkness is no problem: it knows the place perfectly, having 3D-mapped it. Its laser sensors keep it informed about its precise path, location and potential obstacles. It conducts its inspection across several rooms. Its cameras zoom in on counters, recording the measurements displayed. Its thermal sensors record the temperature of machines and equipment and its ultrasound microphone checks for potential gas leaks. The robot also inspects lever positions as well as the correct positioning of regulatory fire extinguishers. As the electronic buzz of its engines resumes, it carries on working tirelessly. After a little over two hours of inspection, the robot returns to its docking station for recharging. It will soon head back out to conduct its next solitary patrol. ANYmal played alongside Mulder and Scully in the “X-Files” TV series*, but it is in no way a Hollywood robot. It genuinely exists and surveillance missions are part of its very near future.



Off-shore oil platforms, the first test fields and probably the first actual application of ANYmal. ©ANYbotics

This quadruped robot was designed by ANYbotics, a spinoff of the Swiss Federal Institute of Technology in Zurich (ETH Zurich). Made of carbon fibre and aluminium, it weighs about thirty kilos. It is fully ruggedised, water- and dust-proof (IP-67). A kevlar belly protects its main body, carrying its powerful brain, batteries, network device, power management system and navigational systems. ANYmal was designed for all types of terrain, including rubble, sand or snow. It has been field tested on industrial sites and is at ease with new obstacles to overcome (and it can even get up after a fall). Depending on its mission, its batteries last 2 to 4 hours.

On its jointed legs, protected by rubber pads, it can walk (at the speed of human steps), trot, climb, curl upon itself to crawl, carry a load or even jump and dance. It is the need to move on all surfaces that has driven its designers to choose a quadruped. “Biped

robots are not easy to stabilise, especially on irregular terrain” explains Dr Péter Fankhauser, co-founder and chief business development officer of ANYbotics. “Wheeled or tracked robots can carry heavy loads, but they are bulky and less agile. Flying drones are highly mobile, but cannot carry load, handle objects or operate in bad weather conditions. We believe that quadrupeds combine the optimal characteristics, both in terms of mobility and versatility.” What served as a source of inspiration for the team behind the project, the Robotic Systems Lab of the ETH Zurich, is a champion of agility on rugged terrain: the mountain goat. “We are of course still a long way” says Fankhauser. “However, it remains our objective on the longer term.

The first prototype, ALoF, was designed already back in 2009. It was still rather slow, very rigid and clumsy – more of a proof of concept than a robot ready for application. In 2012, StarlETH, fitted with spring joints, could hop, jump and climb. It was with this robot that the team started participating in 2014 in ARGOS, a full-scale challenge, launched by the Total oil group. The idea was to present a robot capable of inspecting an off-shore drilling station autonomously.

Up against dozens of competitors, the ETH Zurich team was the only team to enter the competition with such a quadrupedal robot. They didn’t win, but the multiple field tests were growing evermore convincing. Especially because, during the challenge, the team designed new joints with elastic actuators made in-house. These joints, inspired by tendons and muscles, are compact, sealed and include their own custom control electronics. They can regulate joint torque, position and impedance directly. Thanks to this innovation, the team could enter the same competition with a new version of its robot, ANYmal, fitted with three joints on each leg. The ARGOS experience confirms the relevance of the selected means of locomotion. “Our robot is lighter, takes up less space

on site and it is less noisy” says Fankhauser. “It also overcomes bigger obstacles than larger wheeled or tracked robots!” As ANYmal generated public interest and its transformation into a genuine product seemed more than possible, the startup ANYbotics was launched in 2016. It sold not only its robot, but also its revolutionary joints, called ANYdrive.

Today, ANYmal is not yet ready for sale to companies. However, ANYbotics has a growing number of partnerships with several industries, testing the robot for a few days or several weeks, for all types of tasks. Last October, for example, ANYmal navigated its way through the dark sewage system of the city of Zurich in order to test its capacity to help workers in similar difficult, repetitive and even dangerous tasks.

Why such an early interest among companies? “Because many companies want to integrate robots into their maintenance tasks” answers Fankhauser. “With ANYmal, they can actually evaluate its feasibility and plan their strategy. Eventually, both the architecture and the equipment of buildings could be rethought to be adapted to these maintenance robots”.



ANYmal requires ruggedised, sealed and extremely reliable interconnection solutions, such as LEMO. ©ANYbotics

Through field demonstrations and testing, ANYbotics can gather masses of information (up to 50,000 measurements are recorded every second during each test!) “It helps us to shape the product.” In due time, the startup will be ready to deliver a commercial product which really caters for companies’ needs.

Inspection and surveillance tasks on industrial sites are not the only applications considered. The startup is also thinking of agricultural inspections – with its onboard sensors, ANYmal is capable of mapping its environment, measuring bio mass and even taking soil samples. In the longer term, it could also be used for search and rescue operations. By the way, the robot can already be switched to “remote control” mode at

any time and can be easily tele-operated. It is also capable of live audio and video transmission.

The transition from the prototype to the marketed product stage will involve a number of further developments. These include increasing ANYmal's agility and speed, extending its capacity to map large-scale environments, improving safety, security, user handling and integrating the system with the customer's data management software. It will also be necessary to enhance the robot's reliability "so that it can work for days, weeks, or even months without human supervision." All required certifications will have to be obtained. The locomotion system, which had triggered the whole business, is only one of a number of considerations of ANYbotics.



Designed for extreme environments, for ANYmal smoke is not a problem and it can walk in the snow, through rubble or in water. ©ANYbotics

The startup is not all alone. In fact, it has sold ANYmal robots to a dozen major universities who use them to develop their know-how in robotics. The startup has also

founded ANYmal Research, a community including members such as Toyota Research Institute, the German Aerospace Center and the computer company Nvidia. Members have full access to ANYmal's control software, simulations and documentation. Sharing has boosted both software and hardware ideas and developments (built on ROS, the open-source Robot Operating System). In particular, payload variations, providing for expandability and scalability. For instance, one of the universities uses a robotic arm which enables ANYmal to grasp or handle objects and open doors.

Among possible applications, ANYbotics mentions entertainment. It is not only about playing in more films or TV series, but rather about participating in various attractions (trade shows, museums, etc.). "ANYmal is so novel that it attracts a great amount of interest" confirms Fankhauser with a smile. "Whenever we present it somewhere, people gather around."

Videos of these events show a fascinated and sometimes slightly fearful audience, when ANYmal gets too close to them. Is it fear of the "bad robot"? "This fear exists indeed and we are happy to be able to use ANYmal also to promote public awareness towards robotics and robots." Reminiscent of a young dog, ANYmal is truly adapted for the purpose.

However, Péter Fankhauser softens the image of humans and sophisticated robots living together. "These coming years, robots will continue to work in the background, like they have for a long time in factories. Then, they will be used in public places in a selective and targeted way, for instance for dangerous missions. We will need to wait another ten years before animal-like robots, such as ANYmal will share our everyday lives!"

At the Consumer Electronics Show (CES) in Las Vegas in January, Continental, the German automotive manufacturing company, used robots to demonstrate a last-mile

delivery. It showed ANYmal getting out of an autonomous vehicle with a parcel, climbing onto the front porch, lifting a paw to ring the doorbell, depositing the parcel before getting back into the vehicle. This futuristic image seems very close indeed.

STUDENT ACHIEVEMENT

PLACEMENT ACTIVITIES

Student Name	Student ID/No.	Employer name	Employer Website	Date of offer / Appointment
CH. RAVI KUMAR	13D41A0439	AISHWARYA TECHNOLOGIES	http://www.aishwaryatelltd.net/	29.06.2017
E. ARUN TEJA	13D41A0457	AISHWARYA TECHNOLOGIES	http://www.aishwaryatelltd.net/	29.06.2017
S. SRIYANSH	13D41A04F4	AISHWARYA TECHNOLOGIES	http://www.aishwaryatelltd.net/	29.06.2017
K. DEEPIKA	13D41A0480	AISHWARYA TECHNOLOGIES	http://www.aishwaryatelltd.net/	29.06.2017
MD. SIRAJUDDIN	13D41A04B7	AISHWARYA TECHNOLOGIES	http://www.aishwaryatelltd.net/	29.06.2017
N. BHANU VIKAS	13D41A04C9	AISHWARYA TECHNOLOGIES	http://www.aishwaryatelltd.net/	29.06.2017
B. PARASHA RAMUDU	13D41A0418	AISHWARYA TECHNOLOGIES	http://www.aishwaryatelltd.net/	29.06.2017
A. RAVI	13D41A0406	AISHWARYA TECHNOLOGIES	http://www.aishwaryatelltd.net/	29.06.2017
K. DEVI	13D41A0494	AISHWARYA TECHNOLOGIES	http://www.aishwaryatelltd.net/	29.06.2017
J. KUMAR	13D41A0470	AISHWARYA TECHNOLOGIES	http://www.aishwaryatelltd.net/	29.06.2017
A. SESA SAI	13D41A0405	SUTHERLAND	https://www.sutherland.com/	29.06.2017
D. PRASANNA LAKSHMI	13D41A0448	SUTHERLAND	https://www.sutherland.com/	29.06.2017
G.PRANEETH	13D41A0465	SUTHERLAND	https://www.sutherland.com/	29.06.2017
K. LAKSHMI KALYANI	13D41A0488	SUTHERLAND	https://www.sutherland.com/	29.06.2017
K. DINESH	13D41A04A6	SUTHERLAND	https://www.sutherland.com/	29.06.2017
M. VISHNU VARDHAN	13D41A04B1	SUTHERLAND	https://www.sutherland.com/	29.06.2017
N. SRAVYA REDDY	13D41A04D4	SUTHERLAND	https://www.sutherland.com/	29.06.2017
SAI HARI PRASAD	13D41A04E5	SUTHERLAND	https://www.sutherland.com/	29.06.2017
VAJRAHAS	13D41A04F6	SUTHERLAND	https://www.sutherland.com/	29.06.2017
T. KARTHIKEYA	13D41A04H3	SUTHERLAND	https://www.sutherland.com/	29.06.2017

T. TEJASWINI	13D41A04J0	SUTHERLAND	https://www.sutherland.com/	29.06.2017
N. SRAVANI JYOTHI	13D41A04D1	SUTHERLAND	https://www.sutherland.com/	29.06.2017
C. RAJASHEKAR REDDY	14D45A0408	SUTHERLAND	https://www.sutherland.com/	29.06.2017
S. VEDA CHANDANA	14D41A04J4	SITEL	https://www.sitel.com/	07-05-2018
G. PRIYANKA	14D41A0466	QSPIDERS JSPIDERS	https://www.qspidersjspiders.com/	20-03-2018
G. ARPIKA	14D41A0471	QSPIDERS JSPIDERS	https://www.qspidersjspiders.com/	20-03-2018
B. NEEHARIKA	14D41A0427	FACE	https://www.face.com/	31-03-2018
P SAI MANISH	14D41A04G5	EIDIKO	https://www.eidiko.com/	01-06-2018
P NIKHIL REDDY	14D41A04G6	EIDIKO	https://www.eidiko.com/	01-06-2018
V SAI RAM REDDY	14D41A04L9	GENPACT	https://www.genpact.com/	09-02-2018
K. SHEERASAGAR ANVESH	14D41A04A2	GENPACT	https://www.genpact.com/	09-02-2018
S. VEDA CHANDANA	14D41A04J4	GENPACT	https://www.genpact.com/	09-02-2018
B YUKHTI	14D41A0430	GENPACT	https://www.genpact.com/	09-02-2018
SANKOJU TEJASWINI	14D41A04J9	GENPACT	https://www.genpact.com/	09-02-2018
B LAXMI PRASANNA KUMAR	14D41A04N1	ALIENS DEVELOPERS	https://www.aliensdevelopers.com/	07-05-2018
V KRANTHI	14D41A04M1	ALIENS DEVELOPERS	https://www.aliensdevelopers.com/	07-05-2018
G. BHAVANA	14D41A0469	ALIENS DEVELOPERS	https://www.aliensdevelopers.com/	07-05-2018
SANKOJU TEJASWINI	14D41A04J9	ALIENS DEVELOPERS	https://www.aliensdevelopers.com/	07-05-2018
GANAKANAPAL LI NAVEENA	14D41A0460	ALIENS DEVELOPERS	https://www.aliensdevelopers.com/	07-05-2018
MANASA	14D41A0494	ALIENS	https://www.aliensdevelopers.com/	07-05-2018

KALLEM		DEVELOPERS	m/	
ARIPELLY SAIKUMAR	14D41A0412	SIA	https://www.SIA.com/	21-04-2018
ARROJU SHIVANI	14D41A0413	SIA	https://www.SIA.com/	21-04-2018
ARUTLA MEGHANA	14D41A0414	ALIENS DEVELOPERS	https://www.aliensdevelopers.com/	07-05-2018
ATTHELI NIKHIL	14D41A0415	ALIENS DEVELOPERS	https://www.aliensdevelopers.com/	07-05-2018
AZMEERA SUMAN	14D41A0416	INTELLICRATS INFOSOLUTION S P LTD	https://www.intellicratsinfosolutions.com/	03-04-2018
B ARUN KUMAR	14D41A0417	CISTRON INFOTECK PVT LTD	https://www.cistroninfoteckpvtltds.com/	03-05-2018
ADEPU AKHIL	14D41A0403	CDK GLOBAL	https://www.cdkglobal.com/	07-05-2018
M DEEPTHI REDDY	14D41A04B5	QSPIDERS JSPIDERS	https://www.qspidersjspiders.com/	20-03-2018
M NIKHIL REDDY	14D41A04B6	SIA	https://www.SIA.com/	21-04-2018
M PRANEETH KUMAR REDDY	14D41A04B7	GENPACT	https://www.genpact.com/	09-02-2018
NALLAMASA POOJA	14D41A04E3	GENPACT	https://www.genpact.com/	09-02-2018
NARISINGA KALYANI	14D41A04E5	QSPIDERS JSPIDERS	https://www.qspidersjspiders.com/	20-03-2018
PALSA SAI SURESH	14D41A04F1	QSPIDERS JSPIDERS	https://www.qspidersjspiders.com/	20-03-2018
P SRI HARI NAIDU	14D41A04F3	GENPACT	https://www.genpact.com/	09-02-2018

LIST OF STUDENTS PARTICIPATED IN OTHER TECHNICAL EVENTS

S. No	Date	Name of the event	Venue	Name of the student	Awards
1.	8-7-2017	AAKRUTHI	OU, HYD	M.Abhinav	Participated

2.	8-7-2017	AAKRUTHI	OU,HYD	J.Priyanka	Participated
3.	8-7-2017	AAKRUTHI	OU,HYD	S.Snigdha Reddy	Participated
4.	8-7-2017	AAKRUTHI	OU,HYD	P. Divya Reddy	Participated
5.	8-7-2017	AAKRUTHI	OU,HYD	M. Aishwarya	Participated
6.	8-7-2017	AAKRUTHI	OU,HYD	T.Pragnya Reddy	Participated
7.	8-7-2017	AAKRUTHI	OU,HYD	K. Dinesh Reddy	Participated
8.	8-7-2017	AAKRUTHI	OU,HYD	P. Anusha	Participated
9.	8-7-2017	AAKRUTHI	OU,HYD	B. Sai Kumar Reddy	Participated
10.	8-7-2017	AAKRUTHI	OU,HYD	T. Bhavana	Participated
11.	8-7-2017	AAKRUTHI	OU,HYD	P. Chandana	Participated
12.	8-7-2017	AAKRUTHI	OU,HYD	A. Chandana	Participated
13.	8-7-2017	AAKRUTHI	OU,HYD	P. Madhuri	Participated
14.	8-7-2017	AAKRUTHI	OU,HYD	A. Meena	Participated
15.	8-7-2017	AAKRUTHI	OU,HYD	P. Sindhuja	Participated
16.	8-7-2017	AAKRUTHI	OU,HYD	K. Krishna Reddy	Participated
17.	8-7-2017	AAKRUTHI	OU,HYD	A. Sowmya	Participated

LIST OF EVENTS ORGANIZED

S.No	Date	Name of the event	Name of the coordinator/s	Resource person details	No of participants
1	29/10/2017	ATMOS	E.PARUSHARAM	BITS-HYD	7
2	09/02/2018	CYIENT	E.PARUSHARAM	IIT-HYD	8
3	18/09/2017	TECH-FEST	ABDUL KHAJA PASHA	JNTU-HYD	6

S.No	Subject	Gap	Action Taken	Date-Month-Year	Resource Person with Designation	No of students
1	English	Soft Skills development	Workshop	29/12/2017 & 30/12/2017	Mr.Karthik IMPATA	110
2	CMC	Android Apps Development	Hands on Worksh	10/11/2017 & 11/11/2017	Conscience Tech	70
3	AWP	Various Antennas and Its Applications in Wireless Domain	Seminar	21/10/2017	Dr.P.V.Ramana Reddy,Professor,Dept of ECE,JNTUA	90

4	BEE	PCB Design and Fabrication Techniques	Hands on worksh	08/09/2017 & 09/09/2017	ROBOINSCI Technologies PVT Lmtd	60
5	DSP	Filter bank multi carrier modulation	Guest Lecture	15/07/2017	Thota Sravanthi Asst.Prof CVR College of Engg	75

LIST OF STUDENTS PARTICIPATED IN PAPER/POSTER PRESENTATION

S. No	Date	Name of the event	Venue	Name of the student	Awards
1	21-03-2018	Poster Presentation	Sicet, Ibp	V VISHALA	First Prize
2	21-03-2018	Poster Presentation	Sicet, Ibp	S PRASANNA	Second Prize
3	21-03-2018	Poster Presentation	Sicet, Ibp	M PRAVALIKA	Second Prize

INDUSTRIAL VISITS

S.no	Name of the visiting Industry	Contribution in teaching	Academic year	Impact analysis
1	DLRL	State Machine Implementation using FPGA	2017-2018	Students were exposed to DLRL working environment and State Machine Implementation using FPGA
2	BHEL	Study of PLC Machine	2017-2018	Students were exposed to BHEL working environment and Study of PLC Machine
3	BHEL	Programmable Logic Controllers (PLC)	2017-2018	Students were exposed to BHEL working environment and Programmable Logic Controllers (PLC)
4	RCI	Digital Timer Implementation Using 7-Segment display	2017-2018	Students were exposed to RCI working environment and Digital Timer Implementation Using 7-Segment display

5	BHEL	Study of CNC Machines	2017-2018	Students were exposed to BHEL working environment and Study of CNC Machines
6	DRDL	Ground telemetry System	2017-2018	Students were exposed to DRDL working environment and Ground telemetry System
7	DRDL	Telemetry System for Missile Applications	2017-2018	Students were exposed to DRDL working environment and Telemetry System for Missile Applications

PROFESSIONAL BODY MEMBERS

S.No	Name of the faculty	Name of professional society as member
1	P.Mukunthan	ISTE, ISRD & IAENG
2	G. Suresh	IETE, ISTE, ISRD & IAENG
3	N C Sendhil Kumar	ISTE, ISRD & IAENG
4	N Subash	ISTE, ISRD & IAENG
5	J Martin	ISTE, ISRD & IAENG
6	N Tamilrasan	ISTE, ISRD & IAENG
7	S. SURESH	ISTE, ISRD & IAENG
8	T.S. KARTHIK	ISTE, ISRD & IAENG

LIST OF PROJECTS CARRIEDOUT

ROLL NUMBER	NAME	TITLE OF THE PROJECT	ORGANISATION	GUIDE/SIGN
12D41A0414	B. Uma Maheshwari	Automation of Dry-Wet Collection to support Swachh Bharath Abhiyaan	INHOUSE	Prof K. AshokBabu
12D41A0416	B. Shruthi			
12D41A0422	B. Mamatha			
12D41A0434	CH. Neetha			
12D41A0423	B. Manasa	Two-Way Wireless Data Messaging System for Rural	INHOUSE	Dr. H.S.N.Murthy
12D41A0439	D. Lalitha			

12D41A0441	D. Manasa	areas using Zigbee Technology		
12D41A0450	G. Kiranmai			
12D41A0425	B. Srilatha	Patient Health Monitoring(Heart Beat and Body Temperature) with Doctor Alert reporting over Internet of things	INHOUSE	Prof A.K.Jain
12D41A0428	C. Rahul Sagar			
12D41A0424	B. Bharath Reddy	Microcontroller based Text to Speech Converter for the Dumb	INHOUSE	K. Rammohan Rao
12D41A0429	CH. Sainath			
12D41A0446	E. Sairam			
13D45A0401	K. Sudarshan Reddy			
12D41A0404	A. Surya	Low power multiplier Architecture using Vedic Mathematics in 45nm technology	INHOUSE	B. Deepika Rathod
12D41A0411	B. Revanth			
12D41A0458	T. Srinivas Chowdary			
12D41A0459	S. Sai Kumar			
12D41A0413	Samuel Abhishek	Agricultural Solar Fencing security with Soil humidity based Automatic irrigation System	INHOUSE	M. Sowjanya
12D41A0417	B. Sravanthi			
12D41A0430	CH. Gopimadhu			
12D41A0442	D. RamaKrishna Saketh	Automatic Vehicle Accident Detection and Messaging System using GSM and GPS Modem	INHOUSE	V. Prathyusha
12D41A0445	E. Srikanth			
12D41A0447	G. Balachandrudu			
12D41A0453	G. Shanmukh			

12D41A0402	A. James Anudeep	Bluetooth based Robot for Metal Detection Applications	INHOUSE	B. Sandhya
12D41A0410	B. Nithin			
12D41A0412	B. Saikiran			
12D41A0448	G. Chandrashekar Reddy			
12D41A0408	A. Vamshi Reddy	Android based Intelligence speech recognition and voice operated Robot	INHOUSE	P. Prashanth
12D41A0420	B. Srinivas Reddy			
12D41A0431	CH. Samikruth Reddy			
12D41A0433	CH. Vinay Kumar Reddy			
12D41A0421	B. Tejaswi	Foot Step Power Generation System for Rural Energy application to run AC and DC Loads	INHOUSE	B. Kondalu
12D41A0455	K. Krishna Sree			
12D41A0457	R. Sai Manoj			
12D41A0460	Y. Rajendar Reddy			
12D41A0444	D. Rajesh	Automatic Solar Panel rotation using Arduino	INHOUSE	S. Narasimhulu
13D45A0402	S. Srikanth			
13D45A0403	K. Krishnaiah			
13D45A0405	R. Raviteja			
12D41A0405	A. Srikanth	Finger print based Voting system for free rigging Government	INHOUSE	B. Neeraja
12D41A0438	D. Prasad			
12D41A0452	G. Naveen			

13D45A0404	B. Bharath			
12D41A0440	D. Surya Teja	FPGA Implementation of 8,16 & 32 Bit LFSR with maximum length feedback	ECIL	RamaDevi
12D41A0443	J. Md. Iliyas			
12D41A0406	A. Harshavardhan	Design and verification of carry select adder for low power applications	ECIL- ECIT	Prof K. AshokBabu
12D41A0407	A. Abhishek			
12D41A0451	G. Narsimha Reddy			
12D41A0401	G. RaviTeja	Wireless Blackbox using MEMS Accelerometer and GPS Tracking for Accidental monitoring of vehicles	ECIL	Parashuram
12D41A0418	B. Sravan Kumar			
12D41A0426	B. Manoj Kumar			
12D41A0403	A. Mounika	Multiprotocol Data Transfer Unit	BDL	T. Nagaveni
12D41A0419	B. Manisha			
12D41A0432	CH. Ramalatha			
12D41A0427	C. Veena	Data Acquisition and Frequency Estimation of Non-cooperative ElectroMagnetic Signal	DLRL	B. Neeraja
12D41A0456	P. Swathi			
12D41A0415	S. Sreelekha	Design of Microcontroller based Programmable PLL Frequency Synthesizer for Radar Applications	RCI	Prof K. AshokBabu
12D41A0435	D. Sritha			
12D41A0449	G. Haripriya			
12D41A0454	G. Jayanthi			

12D41A0484	J. Divya Jyothi	Automation dry wet dust collection to support Swach Bharat Abhiyaan and monitoring Over IOT	INHOUSE	P. Udayasri
12D41A04A4	K. Meher Jyothi			
12D41A04B7	T. Vasantha			
12D41A04B8	T. Swetha Reddy			
12D41A0480	J. Jyothi	Robotics -(Head movement driven car for Physically Handicapped)	INHOUSE	Maheshwari
12D41A0485	J. Keerthana			
12D41A0497	K. Bhanu Priya			
12D41A04B9	Y. BhanuSri			
12D41A0472	G. Satyanarayana	Hand Gesture based wheel chair movement control for the disable using MEMS technology	INHOUSE	G. Rajkumar
12D41A0477	H. Srinivas			
12D41A0481	J. Sridath			
12D41A0493	K.Murali Krishna			
12D41A0479	J. Abhilash	IOT based home Automation using email	INHOUSE	Abdul Khaja Pasha
12D41A04A5	K. Sivaji			
12D41A04B4	G. Rajesh			
12D41A04B5	M. Sai Srujan			
12D41A0489	K. Shravan Kumar	HAWK DRONE Video capturing Drone for defense applicatons with two-axis motorized camera Stabilization	INHOUSE	D. Thirumal Reddy
12D41A0492	K. Venugopal Reddy			
12D41A04A1	K. Shyam Sunder Reddy			
12D41A04A3	K. Vinay Kumar			
12D41A0476	H. Pradeep Raj	ARM7 based accident alert and vehicle tracking	INHOUSE	Sunitha
12D41A0490	K. Tarun Shiva			

12D41A04A2	K. Venkateshwar Rao	system		
12D41A04B0	M. Anand			
13D45A0406	B. Nageshwara Rao	WYD14: usb	INHOUSE	R.Sarada
13D45A0407	R. Shiva			
13D45A0408	A. Gopi			
13D45A0409	R. Ranga Swamy			
12D41A0465	G.Shiva Sai	Advanced Aircraft anti-collision system using Zigbee communication and reporting to ground station over IOT	INHOUSE	K. Rajitha
12D41A04B2	P. Venu Kiran			
12D41A04C0	Y. Sandhya			
12D41A04B1	M. Devika	MEMS based Human-Computer interface Mouse control for PC with windows media player controller	INHOUSE	D. Sandhya
12D41A04B6	P. Shireesha			
12D41A04C1	T. Divya			
12D41A0488	K. Sai Shiva	Implementation of Model RADAR Target detection identifier with remote station alert system	INHOUSE	P. Srinivas
12D41A0495	K. Avinash Rao			
12D41A04A6	K. Sathish			
12D41A04A9	M. Ravi Teja			
12D41A0469	G. Rajesh Reddy	Android based password based door locking system in industrial applications	INHOUSE	R. Saidulu
12D41A0470	G. Bhasker			
12D41A0482	J. Thirumalesh			
12D41A0486	K. Praneeth Reddy			

12D41A0462	G. Reddy Muthyam	Zigbee based Secured Wireless Data transmission and reception	INHOUSE	S. Sridhar
12D41A0463	G. Sai Kiran			
12D41A0475	G. Vamshi Reddy			
12D41A04A8	K. Venkatesh			
12D41A0464	G. Santhosh Kumar	Design and development of activation and controlling of home automation system via SMS through Micrxocontroller	INHOUSE	B. Satyanarayana
12D41A0491	K. Venkatesh			
12D41A0499	K. Nikhil Reddy			
13D45A0410	K. Suman			
12D41A0478	J. SaiKishore	PC controlled Robot using Wireless WebCam	INHOUSE	P. Ravinder
12D41A0483	J. Priyanka			
12D41A0471	G. Kiranmai	A Spatial Medium Filter for Noise Removal in Digital Images	BDL	Fatima
12D41A04B3	B. Sahithya Verma			
12D41A0496	K. Mounika			
12D41A0467	G. Yamini	MPC5200B based flash Loader Programming	RCI	G. Krishnaveni
12D41A04A0	K. Sowmya			
12D41A04G7	P.V.S.R.M.N.San tosh	Configuration and commissioning of cognititive /radio based 2G/3G Integrated site in BSNL network area	BSNL	Dr.H.S.N Murthy
12D41A04H9	U.Bharath Kumar			
12D41A04H1	P.V.S.Krishna Teja	500Mhz to 2.5 GHz SWR/Gain measurement system	DRDO(Gaetec)	A.K Jain

12D41A04F0	P.Pavan	Design and implementation of a LAN using VLAN,VTP and STP along with configuration of DHCP,HTTP,DNS services	BSNL	K.Ashok babu
12D41A04F2	P.Vivek			
12D41A04H3	R.Sai Vikas	Detection of BPSK Radar Signal in Electronic War Fare (EW) Environment	DLRL	K.Ashok babu
12D41A04F4	P.Akhil			
12D41A04G1	P.Shiva Kumar			
12D41A04D9	M.BhanuTeja	Motion Analysis using Digital Image processing techniques	BDL	M.Narendraprasad
12D41A04E5	N.Saibaba			
12D41A04G5	P.SaiKiran Chary			
12D41A04C3	M.Noah			
13D45A0414	B.Prakash	RF controlled multi terrain robot Design to travel on water surface in door and out door uneven surfaces	In-house	Uma maheshwari
12D41A04H2	R.Saichandan			
13D45A0413	V.Ambedkar			
12D41A04G6	P.Sowmya	Automatic plant irrigation system with dry/wet soil sense for agricultural application monitoring over IOT	In-house	M.Nikitha
12D41A04G4	P.Sigma			
12D41A04F8	P.Prasanna			
12D41A04C6	M.Nikitha			
12D41A04F7	P.Tejaswi	Movable road divider for vehicle traffic control monitoring Through IOT	In-house	
12D41A04G8	P.SaiMadhuri			
12D41A04D4	M.Ramya			

12D41A04F5	P.Arun			B.Swathi
12D41A04C2	M.Mary vandana	RF based tsunami detection and remote alert system with 60 db siren	In-house	D.Shilpa
12D41A04D5	M..Spandana			
12D41A04D6	B.Mounika			
12D41A04H5	Ch.Nikitha			
12D41A04F3	P.Alekhya	Construction of central control unit for irrigation water pumps cost effective method to control entire villagers water pump with user level authentication illiterate friendly system	In-house	Y.Durga sravanthi
12D41A04I2	Y.Sreelaya			
12D41A04E4	S.Naga Sri Neha			
12D41A04I0	Vaishnavi.V			
12D41A04E0	N.Rishitha	Women security assistance system with GPS tracking and messaging system	In-house	Sowjanya
12D41A04H0	P.Jeshwitha Reddy			
12D41A04H6	K.Sriveda			
12D41A04E9	P.Jhansi			
12D41A04C4	M.Pravallika	Advanced aircraft anti collision system using ZIBEE communication and reporting to ground station IOT and Ultrasonic	In-house	K.Maheshwari Devi
12D41A04I1	Y.Santosh Kumar			
12D41A04H4	R.Santosh			
12D41A04H7	K.Deepak Yadav			

12D41A04E2	N.Vishal Sai	PC to microcontroller secured data communication using fiber optic communication	In-house	Kondalu
12D41A04F6	P.Reuben Babu			
12D41A04H8	T.SaiKiran			
12D41A04C5	M.Sandeep reddy	Development of Real time data Acquisition software for MTL-STD-1553B.Communication on MS-DOS plot form using C/C++ and Implementing Data Processing using MATLAB	RCI	T.Nagaveni
12D41A04F9	P.Ravi Kumar			
12D41A04E8	P.Hari Kumar			
12D41A04D3	M.Pranay kumar			
12D41A04G3	P.Srikanth	Intelligent System For The Detection of Fuel Theft in vehicles	In-house	Rajkumar
12D41A04G9	P.Kiran			
12D41A04E1	N.Santosh			
12D41A04C7	M.Siva Sankar	Android based former friendly agriculture Robot with motorized shovel control system with automatic seed dispensing system	In-house	D.Thirumal reddy
13D45A0411	L.Thirupathi			
13D45A0412	D.Sajanlal			
13D45A0415	Kiran Shankar.B			
12D41A04E7	.P.Adarsh	Design and implementation of solar tracking power system	In-house	Sunitha
12D41A04C8	Md.Matheenuddin			
12D41A04D0	Md.Sameer			
12D41A04D8	M.Sai Kiran Reddy			


12D41A04E6	N.Harshith Kumar	Search and rescue robot for victims of earth quake and other natural calamities	In-house	Md. Abdul Kaja Pasha
12D41A04G2	P.Vijay Kishore			
12D41A04G0	P.Upender			
12D41A04F1	P.Saikiran Reddy			

GOOD THOUGHTS



**Success isn't given, It's earned
On the track, on the field, in the gym
With blood, sweat, and the occasional tear**

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then nothing greater than a challenge**

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