



SAPTHAGIRI COLLEGE OF ENGINEERING,
(Affiliated to VTU, Belagavi, Approved by AICTE, New Delhi)
Department of Electronics and communication Engineering

Volume 6

November 2020

ECE PULSE



Vision: To be an endeavoring Department for providing globally relevant learning experience to the students.

MISSION: To Develop entrepreneurial skills of students to make them entrepreneurs rather than employees. To Inculcate societal responsibility in students. To Develop entrepreneurial skills of students to make them entrepreneurs rather than employees. To Partner with Industry for focusing on real-life problems and make learning more practical.

Chairman: Sri G. Dayanand: The “ECE pulse” newsletter of the department ECE is providing great space for the faculty and students to pen down their innovative ideas, imagination and perceptions to showcase their creativity. So, I take the opportunity to congratulate the department of ECE and its editorial team to successful release of this issue. I am sure that students and faculty will find the content of this edition very interesting and educating.



Executive Director: Sri G. D. Manoj: I am indeed happy to know that the department of ECE has taken initiative in realizing its monthly newsletter “ECE pulse” and urge faculties and students to make use of the platform to share and educate among themselves in publishing articles pertaining to the emerging domain and articles of interesting. I congratulate the team of editorial community and department of ECE.



Principal: Dr. H Ramakrishna: It gives me immense pleasure to note that, SCE has been publishing bi-annual newsletter and I am sure, this will provide an opportunity for the faculty and students to share their knowledge and beacon the information about various issues and activities that are being taking place in the department. I look forward for more activities and achievements for the department to march towards excellence in the future. I would like to thank all teaching, supporting staff and our beloved students for their active participation in publishing this magazine. My special compliments and congratulation to the editorial team of the department for their consistent effort in publishing this newsletter.



Vice-Principal: Dr. M H Annaiah: I am very happy and delighted to know that our college is bringing out the college newsletter. SCE is one of the leading premier engineering colleges in the country offering quality technical education to students thereby enabling them to become globally acceptable engineers in their domains. The newsletter provides a platform for both faculty and students to showcase their achievements and hidden talents. I congratulate our beloved principal and members of editorial board for bringing out this excellent and nformative newsletter on time.



Head of Department: Dr. Sateesh Kumar H C: It gives me an immense pleasure to note that ECE Department bringing up department Newsletter. I am sure this newsletter provides an opportunity to the students and the faculties of the department to project their talents through articles, reports of the various academic and technical programs. I congratulate our beloved principal, Vice-Principal and members of editorial board for bringing out this excellent and informative newsletter.



Memorandum of Understanding (MOU) **“KANEKTIFY ACADEMY”**



This Memorandum of Understanding is executed on 12Th August 2020 by Sapthagiri college of engineering and KANEKTIFY ACADEMY. This is a Learning & Development Arm of Neovegam Technologies Pvt. Ltd. Bengaluru for promoting Internship, Training, Collaborative Research and Development activities.

MOU with senior project Manage, Principal &HOD of ECE

This MOU will be in action for a period of four years from 10-08-2020 and may be renewed with mutual consent of the parties involved.



Discussion about MOU

Memorandum of Understanding (MOU) “Zeropoint Robotics”

MOU executed between Sapthagiri College of Engineering, Bengaluru and between Zeropoint Robotics Pvt. Ltd., Bengaluru on 10/8/2020 for promoting Internship, Training, Collaborative Research and Development activities. MOU will be in action for a period of four years.



MOU Collaboration

Webinar on “Career Option in Electronics Core Industry, Product Engineering, IOT”

WEBINAR hosted by ECE department in collaboration with SchemaZen Technologies Pvt Ltd on



HOD of ECE and coordinator

“Career Option in Electronics Core Industry, Product Engineering, IOT” on 24-09-2020 for the students of third and final year. The speaker Mr. Karunakaran S founder of SchemaZen Technologies Pvt Ltd explained the core field job opportunity to students of electronics & communication Engineering. There are 198 participants benefitted by this webinar

Webinar on “Latest Trends in Automation Technologies (Industry 4.0)”

Webinar hosted by ECE department in collaboration with IETE and HYDAC INDIA Pvt Ltd on “Latest



Dr. Vijay Kumar Kulkarni and Prof. Kavita R J

Trends in Automation Technologies (Industry 4.0)” by Mr. Santosh M S Senior Manager HYDAC INDIA Pvt Ltd. for the students of second, third and final year. The webinar was conducted on 09.10.2020 and 273 participants benefitted by this webinar.

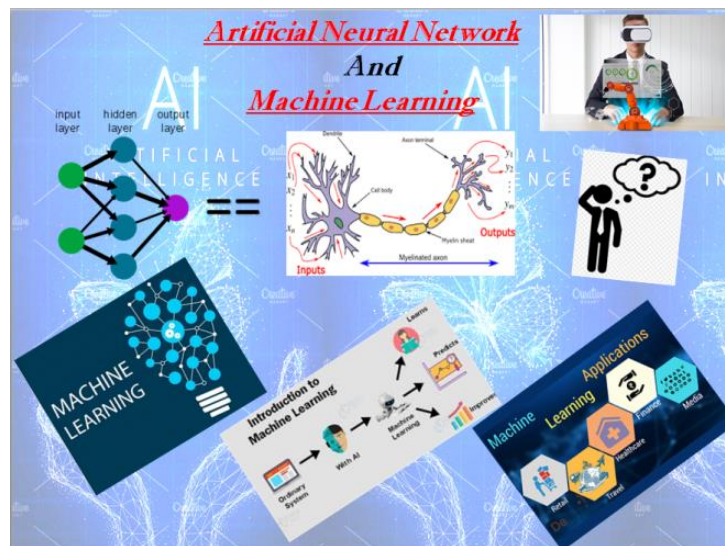
Faculty Publications

Nivedita Malipatil , V. Roopashree , R. H. Sanjana Gowda, M. R. Shobha, H. C. Sateesh Kumar
“RFID Based Library Management System” International Journal of Research in Engineering,
Science and Management Volume-3, Issue-7, July-2020 | ISSN (Online): 112-115

Student achievements

Poster presentation

An online Poster Presentation competition was organized by the PULSE forum of Department of Electronics & Communication Engineering, Sapthagiri College of Engineering in association with IETE on 15th September 2020 in tribute to the greatest Indian Engineer, Sir. M.Visveswaraya. The topics for poster presentation were as follows: Emerging Trends in Industry 4.0, PLC, VLSI, Embedded Systems, Image Processing, Artificial Intelligence and Robotics.



1st Place Prateek J H and Varun L from SCE


Arun GM (1JB17EC012), Karthik Hadagali (1JB17EC033)
Guide : Dr. Mahantesh K
Electronics & Communication, SJBIT, Bengaluru

Introduction

5G is no longer technology of the future, but a current reality. Entire markets have already started to switch to 5G, with 5 times faster than 4G LTE this marks the beginning of a new era.

This is the only technology created so far with a huge potential to elevate the use of the IoT. 5G however, is not without its challenges – one of which is cybersecurity, a hot button issue that will grow equally in scope and breadth as 5G adoption increases.


According to AT&T Cybersecurity Insights Report, 72.5% of security analysts worldwide rated their level of concern for the 5G's impact on security as high or medium-high, only 22% said they believed their current policies are ready for 5G



2020 Cybersecurity Trends

- 5G Implementation**
Due to IoT, Electronic health applications will collect data about a user's wellbeing, new car technology will monitor a user's movements, and smart applications will collect information about how users live and work which is major concern for societal relevance.
- The continued rise of AI**
Machine learning technologies are being weaponized by cybercriminals to develop increasingly sophisticated malware attack methods.
- Cybersecurity skills gaps**
Into 2020, the demand for cybersecurity professionals will continue to exceed supply, as security teams have to deal with more online threats than ever before.
- A continually growing awareness of the importance of cybersecurity**
With so many organizations undergoing huge digital change, awareness of the ongoing looming presence of cyberattacks continues to grow – not only for large organizations but also for small businesses.
(Report : EC Council 12 March 2020)

Top security concerns



Design of Key 5G Security Features

Innovative Security Design Suitable for Diverse Service Scenarios.

- Service-Oriented E2E Protection to User Plane.
- Unified and Open Authentication Framework Across Different Access
- Technologies and Authentication Protocols.
- Identity Management Open-up Promotes the Development of the 5G Service Ecosystem.
- Enhanced User Privacy Protection.
- Security for mMTC Service Scenarios.
- Security for uRLLC Service Scenarios.

Conclusion

Few sensitive applications like :

- Military Communication
- Health Care
- Personal Privacy
- Government Secrets

also involve use of 5G network, the concern to protect these data will be of highest priority. Security organizations relying on manual security approaches likely will have a hard time keeping up. Security that is dynamic and will be able to quickly address the new security threats of 5G networks, and virtualization & respond to unknown future threats. As we pursue the connected future, however, we must place equivalent, if not greater-focus on the security of those connections, devices, and applications.

Speed is important, but speed without a good targeting solution can be disastrous.

2nd Place Arun GM & Karthik Hadagali from SJBIT.

Dance competition

Cultural Committee of Department of Electronics & Communication Engineering, Sapthagiri College of Engineering organized online Dance Competition for ECE students under the club activity on 24 November 2020. Students exhibited their talent through virtual mode.



1st Place Deepa B 3rd year A



2nd Place Niharika R H 3rd year A

Photography competition

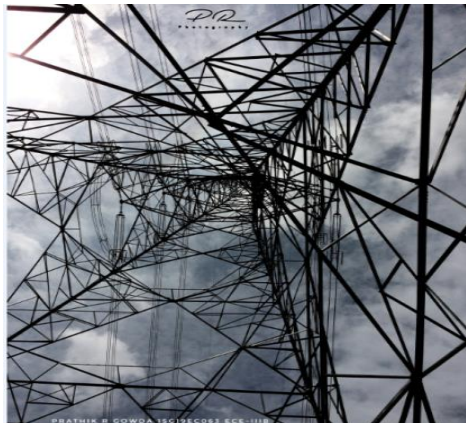
Cultural Committee of Department of Electronics & Communication Engineering, Saptahgiri College of Engineering organized online photography competition for ECE students on September 15-09-2020 on the occasion of Engineer's Day.



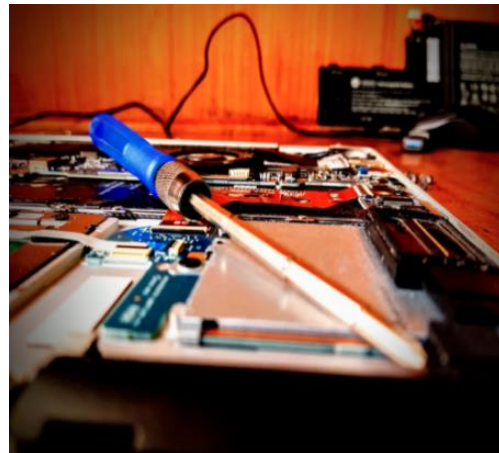
1st Place Shashank S 3rd year, B



2nd place Sindhu S 2nd Year, B



2nd place PrathikR 2nd Year B



3rd place Sushma M M 2nd Year B

Technical Article by Student

ERGO SENSOR MONITOR THAT HELPS

MAINTAIN POSTURE If you slump down when you're typing on an Ergo Sensor monitor by Philips, it'll suggest that you sit up straighter. To help office workers avoid achy backs and tired eyes, the device's built-in camera follows the position of your pupils to determine how you are sitting. Are you too close? Is your neck tilted too much? Algorithms crunch the raw data from the sensor and tell you how to adjust your body to achieve ergonomic correctness. The monitor can also inform you that it's time to stand up and take a break, and it will automatically power down when it senses that you've left. This truly helps software engineers to be healthy in terms of how computer or laptops can affect them and nullifies it just posture correction. Furthermore advancements can help us overcome that typical headache, Children working on computers won't be much effected. -Lavanya.N 3 semester 'A' Section

Poetry by Student

Mirror

Shouldn't we always try to be like mirrors...?
With no stains of previous judgements and memories
Where there is room for everyone to look into,
But none to reside forever
Reflecting the smiles with smiles
And frown with the shine of light
With your own story, behind the silver coat
You shine bright, with lots hidden untold ♥✦

Deepika 7th sem A Section

1SG17EC025

Workshop attended by student

Sl. No.	Name	Description
1	Kushal Bharadwaj B A	2 days works shop on "Android APP Development using Block Coding"
2	Akshay Kumar H P	Latest Trends Automation technologies (Industry 4.0)
3	Kushal Bharadwaj B A	Ethical Hacking conducted by Kyrion Technologies Pvt. Ltd.
4	Kushal Bharadwaj B A	Python Programming Workshop conducted by Kyrion Technologies Pvt. Ltd.
5	Kushal Bharadwaj B A	Internet of Things Workshop Conducted by Kyrion Technologies Pvt. Ltd.

Editorial Team

Chief Editor: **Dr. H C Sateesh Kumar**

Editor: **Dr. Sudha M S**

Student coordinator: **Lavanya N & Nagesh (5A)**

Prateek & Divya (5 B)

Sanrupti (7 A) & Chandra Kumar U (7 A)