



SRI MANAKULA VINAYAGAR ENGINEERING COLLEGE (An Autonomous Institution) Puducherry



IEEE STB 62381

REPORT ON IEEE STUDENT BRANCH

September 2020 - November 2020

ABOUT THE INSTITUTION

Sri Manakula Vinayagar Engineering College (SMVEC) established in the year 1999. SMVEC is an autonomous institution affiliated to Pondicherry University. It offers 14 undergraduate, 8 postgraduate, and 11 research programs in Engineering, Architecture, Management Studies and Computer Applications. SMVEC has been accredited by NAAC with "A" grade and NBA. The institution is also accredited by TATA consultancy services. The college has a good placement record with students getting job offers from top MNC companies in India and abroad. SMVEC students have won many awards and accolades for their academic achievements.



Vision

To be globally recognized for excellence in quality education, innovation and research for the transformation of lives to serve the society

Mission

M1: Quality Education : To provide a comprehensive academic system that amalgamates the cutting edge technologies with best practices.

M2: Research and Innovation : To foster value-based research and innovation in collaboration with industries and institutions globally for creating intellectuals with new avenues.

M3: Employability and Entrepreneurship : To inculcate the employability and entrepreneurial skills through value and skill based training.

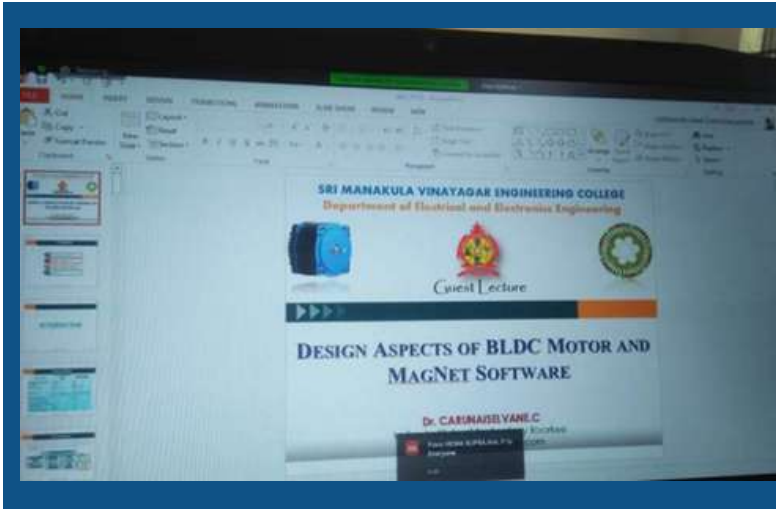
M4: Ethical Values : To instill a deep sense of human values by blending societal righteousness with academic professionalism for the growth of society.

ABOUT IEEE STUDENT BRANCH

The American Institute of Electrical Engineers and the Institute of Radio Engineers merged to create the IEEE on January 1, 1963. IEEE has over 460,000 members in 190 countries, with the U.S. based membership no longer constituting a majority. IEEE produces over 30% of the world's literature in the electrical and electronics engineering and computer science fields, publishing approximately 200 peer-reviewed journals and magazines. IEEE publishes more than 2,000 conference proceedings every year. The IEEE provides learning opportunities within the engineering sciences, research, and technology. IEEE offers educational opportunities such as IEEE e Learning Library, the Education Partners Program, Standards in Education and Continuing Education Units (CEUs). IEEE also sponsors a website designed to help young people better understand engineering, and how an engineering career can be made part of their future. Students of age 8–18, parents, and teachers can explore the site to prepare for an engineering career, ask experts engineering-related questions, play interactive games, explore curriculum links, and review lesson plans. Most IEEE members are electrical and electronics engineers, but the organization's wide scope of interests has attracted people in other disciplines as well (e.g., computer science, software engineering, mechanical engineering, civil engineering, biology, physics, and mathematics).

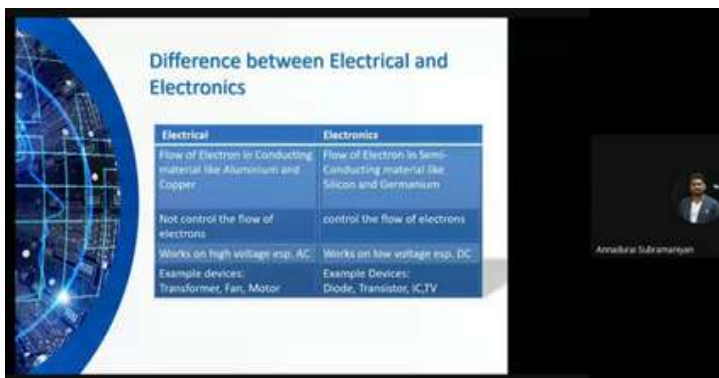


Webinar on “Design aspects of BLDC motor and magnet software”



EEE Dept & IEEE SB organized a one day webinar on “Design aspects of BLDC motor and magnet software” by Dr.C.Arunaiselvane, Research Associate, IIT Roorkee on 2nd Sep, 2020 between 11.00 am to 12.30 p.m. through Google meet. Speaker started the session with basics of Magnet software and its use for the design of motors, sensors, transformers, actuators, solenoids or any component with permanent magnets or coils. He further detailed about design aspects of BLDC motor in Magnet software and also dealt with various performance analyses. A total of 152 Participants attended the webinar and made use of it. Staff coordinators Dr.K.Suresh & Mr.D.Durairaj coordinated the event with Dr.S.Anbumalar, IEEE SB Counselor.

Guest Lecture on “Special Transistors and RF in Communication”



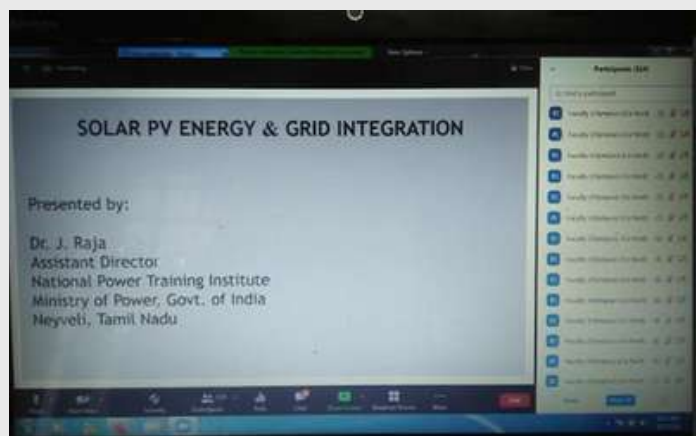
ECE Dept & IEEE SB organized a one and half hour Guest Lecture on “Special Transistors and RF in Communication” by Mr. S. Annadurai, Senior Engineer, MBIT Wireless Pvt. Ltd., Chennai., On 4th Sep, 2020 between 11.00 am to 12.30 p.m. through Google meet.

The speaker started the session was also a really good one. The Guest said about the kinds of transistors, the BJT, JFET and MOSFET. He said about how diodes are used to make transistors. He also showed us the different kinds of diodes and transistors along with the unique name the transistors have. Then he showed us the new kinds of Metal Oxide transistors, such as the MESFET and FINFET. He explained that these Metal

Oxide Semiconductor Field Effect Transistors are used in various fields, and that these are the main components in manufacturing of Integrated Chips. Those chips would form a microcontroller, wherein it remembers its function, what it’s supposed to do. He also showed us about the importance of IOT and AI. Then he elaborated about the 5G technology, about its huge advantages, and how it is going to be different from the 4G technology, and how it is going to focus on the battery consumption kind of problems that exist in the 4G technology and below. These were the things we have learnt from the Guest Lecture’s session, and it was a much informative one. A total of 202 Participants attended the Guest Lecture and made use of it. Staff coordinator Dr. S. Premkumar coordinates the event with Dr. P. Raja HOD/ECE

Guest lecture on “Solar PV technology, CEA, Standards, Regulation and Grid connectivity”

EEE Dept & IEEE SB organized a guest lecture on “Solar PV technology, CEA, Standards, Regulation and Grid connectivity” by Dr.J.Raja, Assistant Director, NPTI, Neyveli, Ministry of Power, Government of India on 5th Sep, 2020 at 11.00 am. The event took place in Google meet. The speaker began the session with Solar PV technology, CEA, Standards, Regulation and continued explaining recent trends in Grid connectivity. Furthermore, the speaker explained Interconnected grids and its methods to improve grid cost-efficiency, reliability, service quality and safety. Around 187 Students were participated enthusiastically.

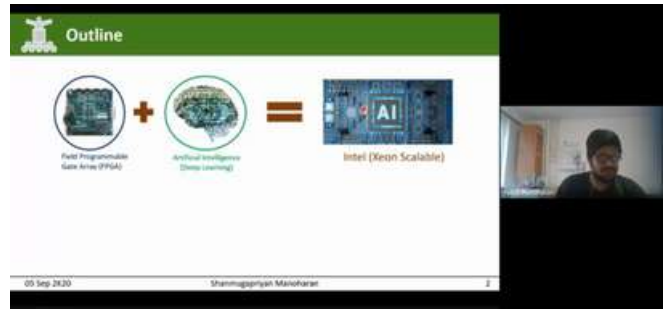




Webinar on the topic, “Introduction to FPGA and Deep Learning”

ECE Dept & IEEE SB organized a webinar on the topic, “INTRODUCTION TO FPGA AND DEEP LEARNING” on 5th of September 2020, between 11.00 am to 12.30 p.m., given by Mr. Shanmugapriyan Manoharan, the Research Assistant of Technische Universitat Chemnitz, Germany, through Google meet.

It was really great to learn about FGPA (Field programmable Gate Arrays) and how they work. The Guest lecturer said about the Logic Synthetic design flow, wherein the FPGA translates the provided code into a device netlist, and that it checks the code syntax, and analyzes the hierarchy of the design architecture. He went on to explain about how the FGPA use Logic GATES (such as AND, OR, NOT) to take several inputs and convert them as outputs. He also showed us how they work by using a website. Then he told us about machine learning, artificial intelligence, and deep learning. He elaborated deep learning by showing us the different approaches for making a machine learn new things. Those were supervised learning , unsupervised learning , semi-supervised learning , and self-supervised learning. These were the new and informative concepts we’ve learnt from the Guest Lecture’s session. A total of 205 Participants attended the Guest Lecture and made use of it. Staff coordinator Dr. B. Shanmugam coordinates the event with Dr. P. Raja HOD/ECE.



FDP on “Industry – Academia Interactions: Bridging the Gap”



EEE Dept & IEEE SB organized a three days Faculty Development Program on “Industry – Academia Interactions: Bridging the Gap” during 10th Sep, 2020 to 12th Sep, 2020 at 11.00 a.m through Google meet. On 10.09.2020 Mr.T.K.Prabaker, Superintending Engineer / LD & GO, TANTRANSO, Government of Tamilnadu delivered lecture on “Earthing Practices in Power Sector and Recent trends”. On 11.09.2020 Dr.J.Raja, Assistant Director, NPTI, Neyveli, Ministry of Power, Government of India delivered lecture on “Recent trends in Solar Energy Conversion systems”. On 12.09.2020 Mr.T.Prabakaran, Engineering Officer (Grade-II), Central Power Research Institute, Bhopal, Government of India delivered lecture on “Critical Issues of the Transformer during Short Circuit withstand Testing”. Staff coordinators Mr.K.Thangaraj & Mr.D.Duraij coordinated the event with Dr.S.Anbumalar, IEEE SB Counselor.

Webinar on “Research Innovations in Science &Technology”

Department of Information Technology in association with IEEE SB organized a one day Webinar on “Research Innovations in Science &Technology” by Mr S. Balagurunathan, President of Tamil Nadu Science Forum, Neyveli Chapter on 12th September 2020 from 2.00 am to 3.30 pm through Google Meet for the students and interested faculty members. The expert stated that the global phenomenon of industrialization, science and technology innovation has given massive economic growth to our country in creating skilled manpower, job opportunities and increase in revenue. Predominant role of Research and Innovations in health care, education and industrial development were brought out to the students. Various development schemes and initiatives by government and other science forums was delivered to the students and he encouraged and insisted that the students’ involvement in research and innovation would make a remarkable change to the society. The faculty coordinators Mrs. A.Sargunavathy and Mr.R.Suresh were the moral support for this event.



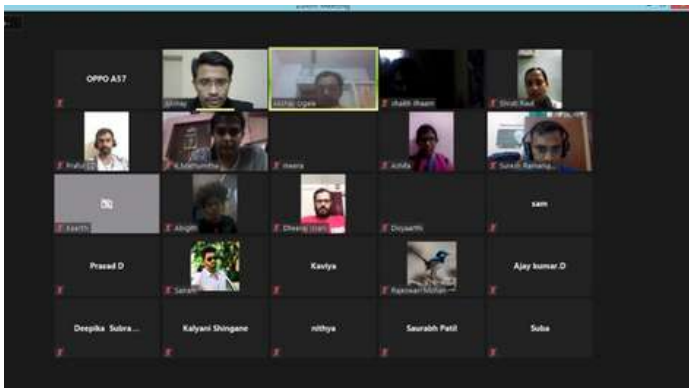


Webinar on “Electrical Engineering applications in railway coaches”



EEE Dept & IEEE SB organized a one day webinar on “Electrical Engineering applications in railway coaches” by Mr.R.Vijayaramu, Junior Engineer – Electrical, Southern Railway, Chennai on 19th Sep, 2020 between 02.00 p.m to 03.30 p.m. through Google meet. The speaker initiated the session by explaining different types of railway coaches. He further continued with recent trends of Electrical Engineering applications in railway coaches. Finally the speaker ended with Q&A forum where he addressed all the queries of the participants. A total of 158 Participants attended the webinar and made use of it. Live webinar ended after the vote of thanks by Dr.S.Anbumalar, HoD – EEE.

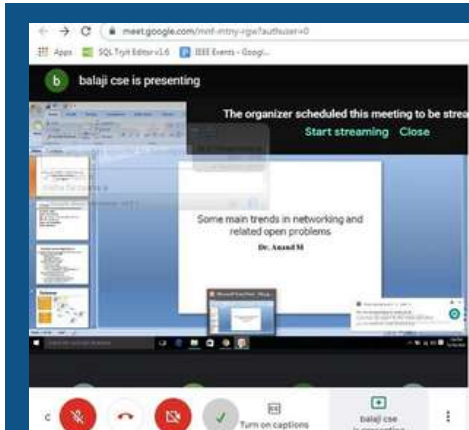
One day technical hands on session on “NumPy”



Department of Information Technology in association with IEEE SB organized a one day technical hands on session on “NumPy” by Mr Akshay Shinde, TECH AMPLIFIERS Pvt Ltd, Pune on 26th September 2020 from 9.30 am to 11.30 am through Google Meet for the students and interested faculty members. This session conveyed the significance of programming language - Python in software industry and the need for the students to be skilled to obtain a job. NumPy is Numerical Python which enables students to perform data

analysis using mathematical and scientific transformations. The fundamental package for scientific computing in Python that provides a multidimensional array object, various derived objects (such as masked arrays and matrices), and an assortment of routines for fast operations on arrays, including mathematical, logical, shape manipulation, sorting, selecting, I/O, basic linear algebra, basic statistical operations, random simulation, etc was delivered to the students. Around 110 participated in the session and gained knowledge. Faculty coordinators Mr.R.Suresh and Mrs.N.Kalaiselvi coordinated the event.

Seminar on “Computer Networks”



CSE Dept & IEEE SB organized a one day seminar on “Computer Networks” by Dr.M.Anand ,Assistant Professor, Saveetha University on 10th Oct , 2020 between 2.00 PM to 3.30 P.M. through Google meet. Speaker started the session with basics of Computer Networks and its use for the design of various networks. He further detailed about design aspects of Networks etc... A total of 175 Participants attended the seminar and made use of it. Staff coordinators Mr.N.Balaji & Mr.N.Gopinath coordinated the event with Dr.K.Premkumar.

Webinar on “Introduction to Machine Learning and Deep Learning”



**DEPARTMENT OF
COMPUTER SCIENCE AND ENGINEERING**
Organizes Webinar on
**INTRODUCTION TO
MACHINE LEARNING AND DEEP LEARNING**
19th Oct 2020 | 11:00 AM - 12:30 PM

CHIEF MENTIONS
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Shri. S.S. Suresh Kumar Vice Chairman

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Dr. K. Narayanasamy Secretary

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CO-ORDINATORS
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Dr. J. Danapauliam Professor / Dept of CSE
Mr. M. Ganesan Asst Professor / CSE
Mr. A. Arokia Raj St Hubert Asst Professor / CSE
Mr. J. Gopinath Asst Professor / CSE

Speaker's Profile
Ahmed Khalid
Dr. Ahmed is an IT Specialist with over 22 years of experience in training, mentoring and business development across different industries. Currently he is the Tech Fellow, Justice Learning.

FREE REGISTRATION
REGISTRATION LINK: <https://bit.ly/3jVd8n1>

CSE Dept & IEEE SB organized a one day webinar on “Introduction to Machine Learning and Deep Learning” by Mr. Ahmed Khalid, Vice-President, Imarticus Learning, 19th Oct, 2020 between 11.00 am to 12.30 p.m. through Zoom meet. Speaker started the session with basics of Machine Learning and Deep Learning and he discussed about data analytics, Artificial Intelligence and Human Intelligence. He further gave the real time examples based on Machine Learning. A total of 166 Participants are attended the webinar and made use of it and E-Certificate is provided to all active participants. Staff coordinators Dr. N. Danapauliam, Mr. M. Ganesan, Mr. Arokia Raj St Hubert & Mr. N. Gopinath coordinated the event with Dr. K. Premkumar, Professor & Head CSE Department.

Guest Lecture on the topic “Industrial Auto Weighing Batching System”

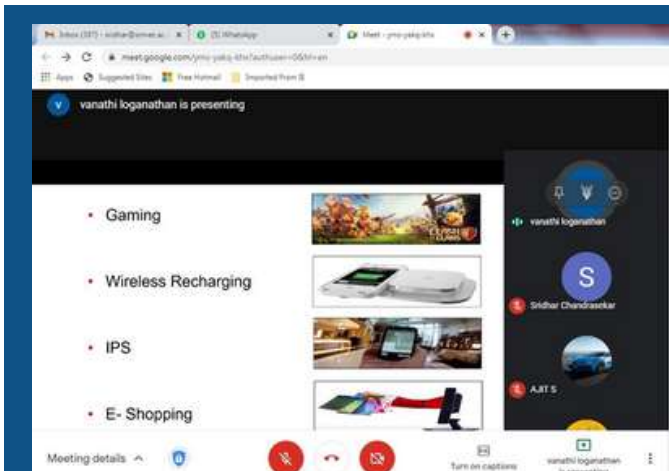
The faculties of the Department of Electronics and Communication Engineering organized a two hours Guest Lecture on the topic “Industrial Auto Weighing Batching System” to fill the academic-industrial gap for the subject of SDIC by Mr. T. Prabakaran, Project Manager-(Operational and Maintenance), Secote India Pvt. Ltd, Chennai., delivered a Guest lecture on PLC & SCADA and its scope for the III year ECE students on 25th October 2020, between 10.20am to 12.30pm through Google meet in the Department of ECE at Sri Manakula Vinayagar Engineering College.

The first part of the lecture was about the Need for PLC & SCADA and general introduction on CNC, PID and Microcontrollers in Industrial automation. The features of PLC & SCADA such as Dynamic representation, Database connectivity, Device connectivity, Alarms, Trends, Scripts, Security, Recipe Management, and Networking were discussed in detail. It was delivered that dynamic representation is a feature that explains the representation of symbols in the tool library. Database connectivity was explained in context to the connection with VB, SQL, and EXCEL etc. The detail of device connectivity includes PLC or DCS. Next the formats OD Alarms were discussed followed by the trends with reference to time and scripts that makes use of logical operators. The concept of security was dealt in detail which was followed by the explanation of recipe management which is one of the finest features of SCADA. Finally the session ended with the overview of network protocols that are supported by SCADA. Students raised questions regarding the lecture given which was explained by the lecturer in the final session and feedbacks were provided by the students. A total of 128 Participants attended the Guest Lecture and made use of it. The head of the Department of Electronics and Communication Engineering Dr. P. Raja and the faculty members namely Mrs. S. Jayanthi, Mrs. V. Logisvary and Mr. J. Soundararajan are played important part in organizing the guest Lecture.





Guest Lecture on “Consumer Electronics in Next Generation”



The speaker started the session was also a really good one with the significant role of Consumer Electronics in the Department of Electronics and Communication. Initially, madam explained about the different generations of computers and also discussed about the differences between the laptops and desktops and its working. She gave an idea about the evolution of smartphones and its features; in addition to that she said features of the smartphones in the medical field. She also added the pros and cons of the smartphones applicable to the present situation. She also gave an idea about the embedded systems and their applications in

day-to-day life to the home appliance electronics and also concluded with the smart home architecture and its components and needs. Finally she mention describes the self-directed cars, the emerging technology.

Students raised questions regarding the lecture given which was explained by the lecturer in the final session and feedbacks were provided by the students. A total of 187 Participants attended the Guest Lecture and made use of it. Staff coordinator Ms. C. Janani and Dr. SB. Lenin coordinates the event with Dr. P. Raja, Head of Department, ECE.

Faculty Development Program on “Recent Advances in IT”

Department of Information Technology in association with IEEE SB organized a one day Faculty Development Program on “Recent Advances in IT” on 29th October 2020 for the faculty members, research scholars and students through Google Meet. Two sessions was conducted one in the forenoon and the other in the afternoon. Mr. Santhosh Muniswamy handed the forenoon session titled “The Taste of Devops” from 9.30 am to 11.30 am. This session conveyed the fundamentals of Devops and its significant role in the IT infrastructure sector. He brought out that DevOps describes a culture and set of processes that bring development and operations teams together to complete software development. It allows organizations to create and improve products at a faster pace than they can with traditional software development approaches. And, it’s gaining popularity at a rapid rate. Dr. Mohanraj Vengadachalam handled the afternoon session titled “Computer Vision- Industrial Applications Demo”. The expert gave a general description on computer vision and then moved on to explain several use cases of computer vision. He also showed live examples of how data sets are formed and analyzed to create different business insights. Around 75 faculty members participated in the event and gained knowledge. The FDP was coordinated by Dr.C.Punitha Devi, Professor, Department of IT and Dr.G.Shanmugasundaram, Associate Professor, Department of IT.



Guest lecture on “Renewable energy for sustainable development in India”



EEE Dept & IEEE SB organized a one day guest lecture on “Renewable energy for sustainable development in India” by Dr. Elammaran Jayamani, Faculty of Engineering, Computing and Science, Swinburne University of Technology Sarawak campus, Kuching, Sarawak, Malaysia on 19th Nov, 2020 between 10.00 AM to 11.30 AM through Google meet. Speaker started the session with basics of Renewable energy and its role for sustainable development in India”. He further detailed about recent trends in Renewable energy etc...

A total of 298 Participants attended the guest lecture and made use of it. Staff coordinators Dr.M.Susithra coordinated the event with Dr.S.Anbumalar.



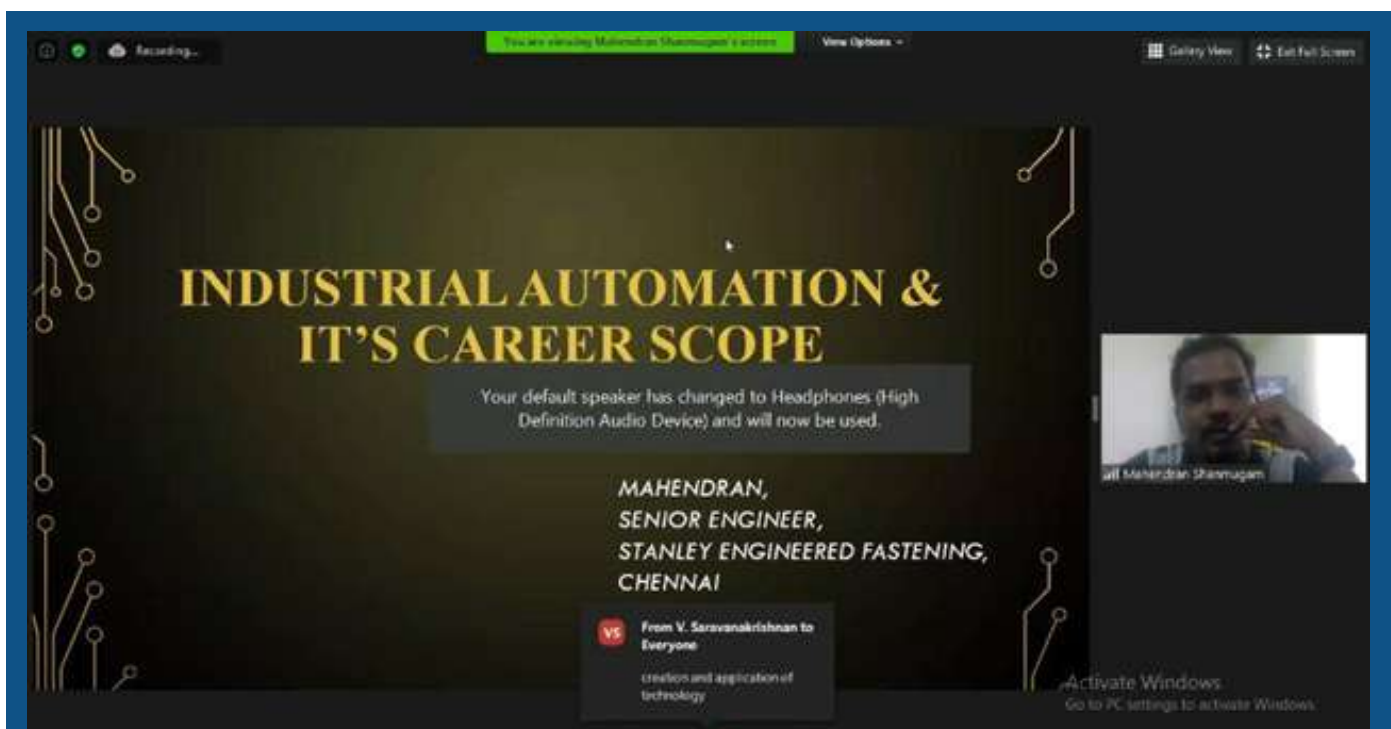
Webinar on “Control of AC Drives and Filters”



EEE Dept & IEEE SB organized a one day webinar on “Control of AC Drives and Filters” by Dr.Sanjeevikumar Padmanaban, Faculty Member with the Department of Energy Technology, Aalborg University, Esbjerg, Denmark, 21st Nov, 2020 between 10.00 am to 11.30 a.m. through Google meet. Speaker started the session with different types of control available for AC drives and he detailed about design aspects of Filters. He further gave the real time examples based on control of AC drives. A total of 98 Participants are attended the webinar and made use of it and

E-Certificate is provided to all active participants. Staff coordinator Dr.D.Raja coordinated the event with Dr.S.Anbumalar, Professor & Head EEE Department.

Webinar on “Industrial Automation and its Career Scope”



EEE Dept & IEEE SB organized a webinar on “Industrial Automation and its Career Scope” by Mr.S.Mahendran, Senior Engineer-Manufacturing, Stanley Engineered Fastening (A unit of Stanley Black and Decker-USA), Sriperumbudur, Chennai on 21st Nov, 2020 at 02.00 am. The event took place in Google meet. The speaker began the session with Industrial automation is the use of control systems, such as computers or robots, and information technologies for handling different processes and machineries in an industry to replace a human being. It is the second step beyond mechanization in the scope of industrialization. Around 297 Students were participated enthusiastically.