



**MANAKULA VINAYAGAR
INSTITUTE OF
TECHNOLOGY**

ELECTROMAG

VOLUME - 8

**DEPARTMENT OF
ELECTRONICS AND
COMMUNICATION
ENGINEERING**

MAGAZINE

2021 - 2022

ABOUT THE DEPARTMENT

ELECTRONICS AND COMMUNICATION ENGINEERING

ELECTROMAG

Electronics and Communication Engineering is gaining increasing importance in all works of life. The advancements and technological innovations in electronics are felt in areas as diverse as commercial communications, medicine, defense and day today common man activities. The department places strong emphasis on fundamentals, so that the student is introduced to complex subjects in an interesting and easy manner. The Department imparts technical knowledge in the areas of Semiconductor devices, Design of Electronic circuits, Communication engineering and its applications. To meet the nation's interest in developing the manufacturing electronics industries, the department offers training in various domains to develop an employable engineer.

ABOUT THE DEPARTMENT

ELECTRONICS AND COMMUNICATION ENGINEERING

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The Department of Electronics and Communication Engineering which was started in the year 2008 offers a UG Programme (B.Tech) in Electronics and Communication Engineering. The B.Tech Electronics and Communication Engineering Programme has been accredited by AICTE and is affiliated to Pondicherry university. The department has a team of committed faculty members who are not only well qualified but are also backed by rich industrial / research / teaching experience. The developments of competency of our students are of utmost importance and various activities are done to enrich the students

VISION OF DEPARTMENT

ELECTRONICS AND COMMUNICATION ENGINEERING

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The department aspires to produce dexterous professionals, competent researchers and entrepreneurial leaders for the benevolence of the society.

MISSION OF DEPARTMENT

ELECTRONICS AND COMMUNICATION ENGINEERING

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Department of Electronics and Communication Engineering is committed.

Higher Order Thinking: To invoke higher order thinking among the students by means of comprehensive teaching and learning process.

Competency: To provide training on cutting-edge technologies to improve the competency of the students.

Continuous learning: To promote innovation through providing state of-art facilities and active industry institute interaction.

Entrepreneurship: To facilitate the students to improve their leadership and entrepreneurship skills with ethical values.

POS OF DEPARTMENT

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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.

POS OF DEPARTMENT

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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.

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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.

PEOS OF DEPARTMENT

ELECTRONICS AND COMMUNICATION ENGINEERING

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PEO1: Employability: Our Graduates shall be suitably employed in allied industries/services with professional competency and knowledge of modern tools.

PEO2: Higher Education: Our Graduates shall be capable to pursue higher studies/research in the field of engineering and management.

PEO3: Entrepreneurship: Our Graduates shall be prepared for a successful career by meeting ever increasing demands required by Electronics and communication profession and enable them to become an entrepreneur.

PEO4: Ethical: Our Graduates cultivate professional and ethical attitudes with effective communication skills, team work and multidisciplinary approach related to engineering issues.

PSO OF DEPARTMENT

ELECTRONICS AND COMMUNICATION ENGINEERING

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PSO1: Products Development: Use modern tools to design subsystems for simple applications in Embedded Systems and VLSI.

PSO2: Design Thinking: Apply engineering concepts to find solutions in the fields of Communications, Signal/Image Processing.

STUDENT ARTICLES

ELECTRONICS AND COMMUNICATION ENGINEERING

ARTICLE -1

NANOTECHNOLOGY IN MEDICINE

Nanotechnology, the manipulation of matter at the atomic and molecular scale to create materials with remarkably varied and new properties, is a rapidly expanding area of research with huge potential in many sectors, ranging from healthcare to construction and electronics. In medicine, it promises to revolutionize drug delivery, gene therapy, diagnostics, and many areas of research, development and clinical application.

WHAT IS NANOTECHNOLOGY

The prefix "nano" stems from the ancient Greek for "dwarf". In science it means one billionth (10 to the minus 9) of something, thus a nanometer (nm) is one billionth of a meter, or 0.000000001 meters. A nanometer is about three to five atoms wide, or some $40,000$ times smaller than the thickness of human hair. A virus is typically 100 nm in size. The ability to manipulate structures and properties at the nanoscale in medicine is like having a sub-microscopic lab bench on which you can handle cell components, viruses or pieces of DNA, using a range of tiny tools, robots and tubes.

STUDENT ARTICLES

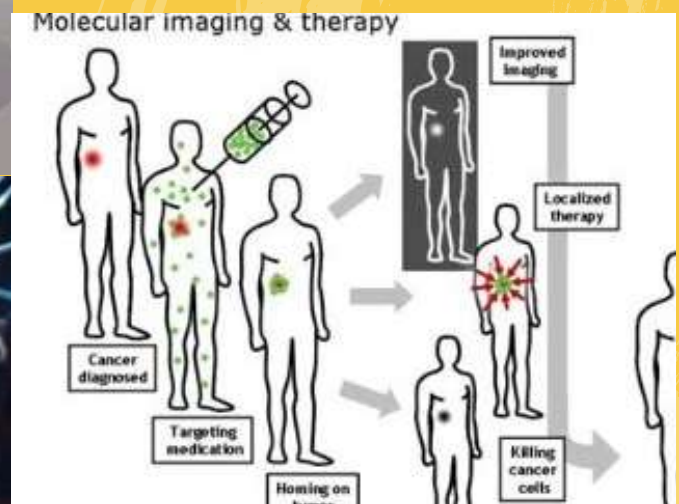
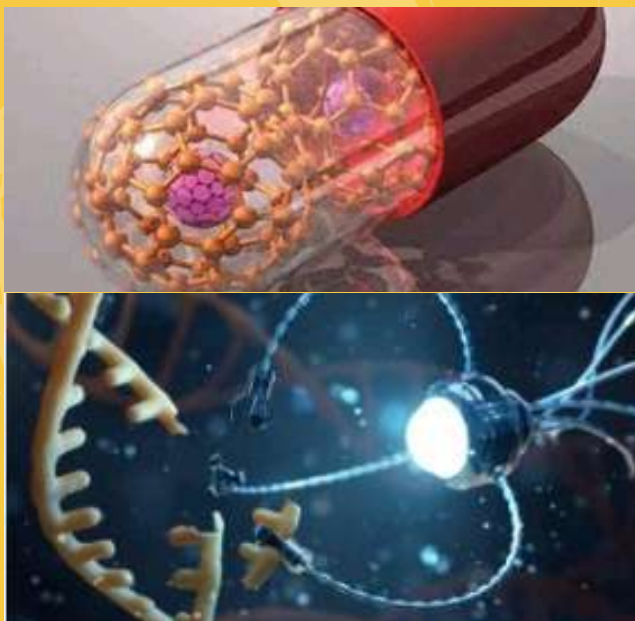
ELECTRONICS AND COMMUNICATION ENGINEERING

ARTICLE -1

NANOBOTS AND NANOSTARS

The chemists at New York University (NYU) have created a nanoscale robot from DNA fragments that walks on two legs just 10 nm long. In a 2004 paper published in the journal Nano Letters, they describe how their "nanowalker", with the help of psoralen molecules attached to the ends of its feet, takes its first baby steps: two forward and two back.

One of the researchers, Ned Seeman, said he envisages it will be possible to create a molecule-scale production line, where you move a molecule along till the right location is reached, and a nanobot does a bit chemistry on it, rather like "spot-welding" on a car assembly line. Seeman's lab at NYU is also looking to use DNA nanotechnology to make a biochip computer, and to find out how biological molecules crystallize, an area that is currently fraught with challenges.



STUDENT ARTICLES

ELECTRONICS AND COMMUNICATION ENGINEERING

ARTICLE -1

The work that Seeman and colleagues are doing is a good example of "biomimetics", where with nanotechnology they can imitate some of the biological processes in nature, such as the behavior of DNA, to engineer new methods and perhaps even improve them.

DNA-based nanobots are also being created to target cancer cells. For instance, researchers at Harvard Medical School in the US reported recently in Science how they made an "origami nanorobot" out of DNA to transport a molecular payload. The barrel-shaped nanobot can carry molecules containing instructions that make cells behave in a particular way. In their study, the team successfully demonstrates how it delivered molecules that trigger cell suicide in leukemia and lymphoma cells.

The researchers found giving their nanobot the shape of a star helped to overcome one of the challenges of using nanoparticles to deliver drugs: how to release the drugs precisely. They say the shape helps to concentrate the light pulses used to release the drugs precisely at the points of the star.

By,

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II ECE - B

STUDENT ARTICLES

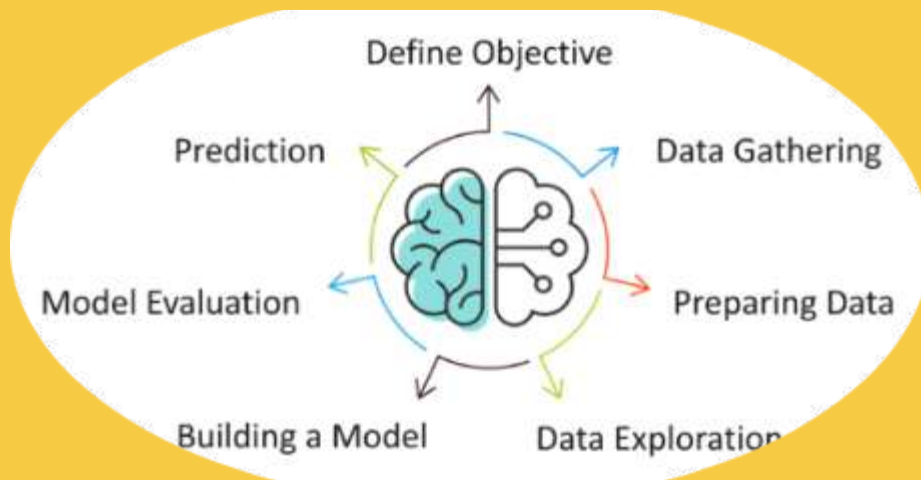
ELECTRONICS AND COMMUNICATION ENGINEERING

ARTICLE -2

INTRODUCTION TO MACHINE LEARNING

Machine Learning is the most in-demand technology in today's market. Its applications range from self-driving cars to predicting deadly diseases such as Amyotrophic lateral sclerosis (ALS). The high demand for Machine Learning skills is the motivation behind this blog. In this blog on Introduction to Machine Learning

NEED FOR MACHINE LEARNING



As per research, we generate around 2.5 quintillion bytes of data every single day! It is estimated that by 2020, 1.7MB of data will be created every second for every person on earth.

With the availability of so much data, it is finally possible to build predictive models that can study and analyze complex data to find useful insights and deliver more accurate results.

Top Tier companies such as Netflix and Amazon build such Machine Learning models by using tons of data in order to identify profitable opportunities and avoid unwanted risks.

STUDENT ARTICLES

ELECTRONICS AND COMMUNICATION ENGINEERING

ARTICLE -2

Here's a list of reasons why Machine Learning is so important:

Increase in Data Generation: Due to excessive production of data, we need a method that can be used to structure, analyze and draw useful insights from data. This is where Machine Learning comes in. It uses data to solve problems and find solutions to the most complex tasks faced by organizations.

Improve Decision Making: By making use of various algorithms, Machine Learning can be used to make better business decisions. For example, Machine Learning is used to forecast sales, predict downfalls in the stock market, identify risks and anomalies, etc.

Uncover patterns & trends in data: Finding hidden patterns and extracting key insights from data is the most essential part of Machine Learning. By building predictive models and using statistical techniques, Machine Learning allows you to dig beneath the surface and explore the data at a minute scale. Understanding data and extracting patterns manually will take days, whereas Machine Learning algorithms can perform such computations in less than a second.

Solve complex problems: From detecting the genes linked to the deadly ALS disease to building self-driving cars, Machine Learning can be used to solve the most complex problems.

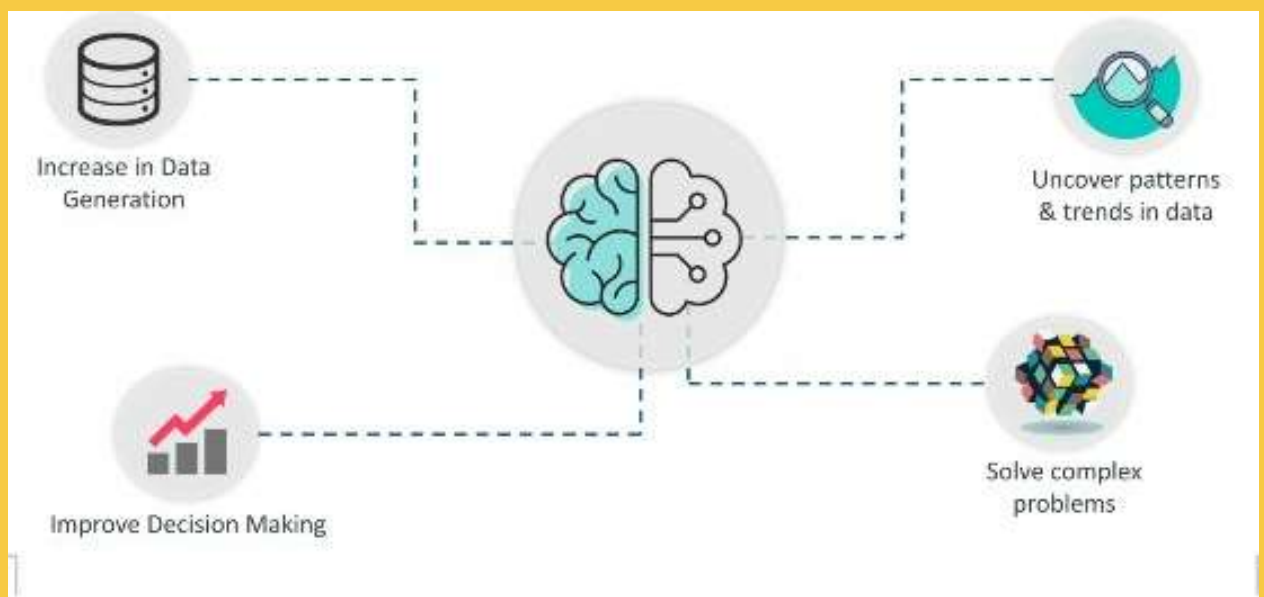
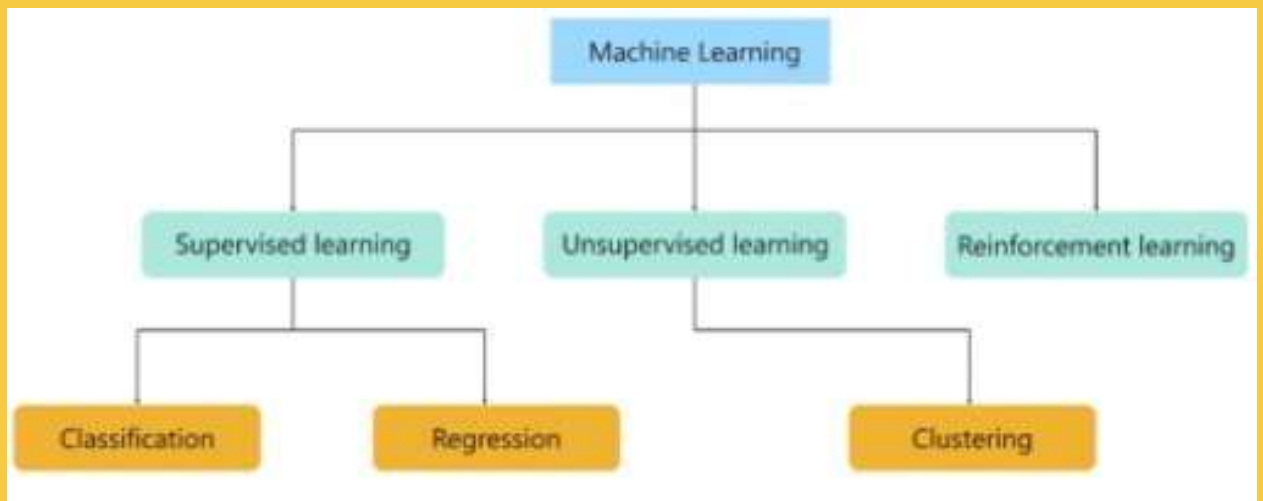
STUDENT ARTICLES

ELECTRONICS AND COMMUNICATION ENGINEERING

ARTICLE -2

A machine can learn to solve a problem by following any one of the following three approaches. These are the ways in which a machine can learn:

1. Supervised Learning
2. Unsupervised Learning
3. Reinforcement Learning



By, Vishnu
II ECE - A

TALENT WORK

ELECTRONICS AND COMMUNICATION ENGINEERING

QUESTIONS THAT WILL SQUEEZE YOUR BRAIN

1. What can you keep but cannot share and once you share it, you can't keep it anymore?
2. You leave home and go to your right. You reach a corner and turn left. You reach another corner and turn left again. You reach another corner and turn left again and go home. When you get there, there is a person with a mask there waiting for you. What's happening?
3. A man was outside taking a walk when it started to rain. The man didn't have an umbrella and he wasn't wearing a hat. His clothes got soaked, yet not a single hair on his head got wet. How could this happen?
4. Sam's mother had 4 children in all. The first one was named May. The second and third were called June and July respectively. What was the fourth child's name?
5. The more it dries, the wetter it gets. What is it?
6. Why can't a man living in the USA be buried in Canada?
7. There is only one time in your life when you're twice as old as your child. When is that?
8. What is greater than God, more evil than the devil, the poor have it, the rich need it, and if you eat it, you'll die?
9. Who makes it, has no need of it. Who buys it, has no use for it. Who uses it can neither see nor feel it. What is it?
10. What can travel around the world while staying in a corner?

TALENT WORK

ELECTRONICS AND COMMUNICATION ENGINEERING

ANSWERS FOR THE QUESTIONS

Answer 1 – A secret.

Answer 2 – You are playing baseball.

Answer 3 – The man was bald.

Answer 4 – Sam!

Answer 5 – A Towel.

Answer 6 – You cannot bury a living man.

Answer 7 – When your child reaches the age you were when he or she was born, you'll stay "twice as old" until your next birthday.

Answer 8 – Nothing.

Answer 9 – A coffin.

Answer 10 – A stamp.

TALENT WORK

ELECTRONICS AND COMMUNICATION ENGINEERING

PAINTINGS



VISHNU
II - YEAR B



VINOTH
II - YEAR B

INDUSTRIAL VISIT

ELECTRONICS AND COMMUNICATION ENGINEERING

INDUSTRIAL VISIT



Industrial Visit to “Radio Astronomy Centre” on 13.05.2022 by our Third year students at Udagamandalam



Industrial Visit to “MSIR INDIA CALIBRATION ”on 28.05.2022 by our II year ECE students at Chennai

INDUSTRIAL VISIT

ELECTRONICS AND COMMUNICATION ENGINEERING

INDUSTRIAL VISIT



Industrial Visit to "EATON BUSSMAN" on 15.07.2022 by our Second year students at sedarapet, Puducherry.



field trip for III year ECE to Kaivalya Technologies Private Ltd on 2nd June 2022.

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INDUSTRIAL VISIT

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INDUSTRIAL VISIT



Field trip for the dream students of ECE to “Water Expo” in Chennai Trade Park on 7th May 2022.



on “Why IoT is a Game Changer” on 24.05.2022 Delivered by Ms. Deepa Vaitheeswaran, Proprietress, Kaivalya Tech Services, Pondicherry.

GUEST LECTURES

ELECTRONICS AND COMMUNICATION ENGINEERING

GUEST LECTURE



Lecture on "Wireless communication – DATA ENGINEERING IN INDUSTRY" on 21.05.2022 Delivered by Mr.P.Govindan, Senior system engineer, INFOFYS, Bangalore



Guest Lecture on "HOW TO BE READY FOR POST PANDEMEIC INDUSTRIAL DISRUPTION" on 18.05.2022 Delivered by Mr.Mayank Arora, Founder and CEO , Elite Techno Groups, Bengaluru.

GUEST LECTURES

ELECTRONICS AND COMMUNICATION ENGINEERING

BRAINSTORMING SESSIONS



Guest Lecture on “VLSI DESIGN fundamentals, Application areas, Scope and Opportunities” was delivered by Mr.A.Ashiq Ahamed, Managing Director and Chief Trainer of Bistate Systems, Puducherry on 30th September 2021.



Multimedia Presentation for IV year ECE on 05.07.2022

SESSIONS

ELECTRONICS AND COMMUNICATION ENGINEERING

BRAINSTORMING SESSIONS



Competition for the students of MVIT conducted on “World Heritage Day”, 18th April 2022



Workshop for the internal/external participants in the topic of “PLC” on 6th & 7th June 2022

SESSIONS

ELECTRONICS AND COMMUNICATION ENGINEERING

BRAINSTORMING SESSIONS



Workshop in the topic of "XILINX-VLSI" on 22nd June 2022.



Inter college competition in the topic of "Component Identification" on 18th June 2022.

ACHIEVEMENTS

ELECTRONICS AND COMMUNICATION ENGINEERING

BRAINSTORMING SESSIONS



Six students from II ECE-A have attended one day workshop on "Robotics" conducted by Top Engineers, IIT madras Research Park on 19th December 2021.

ACHIEVEMENTS

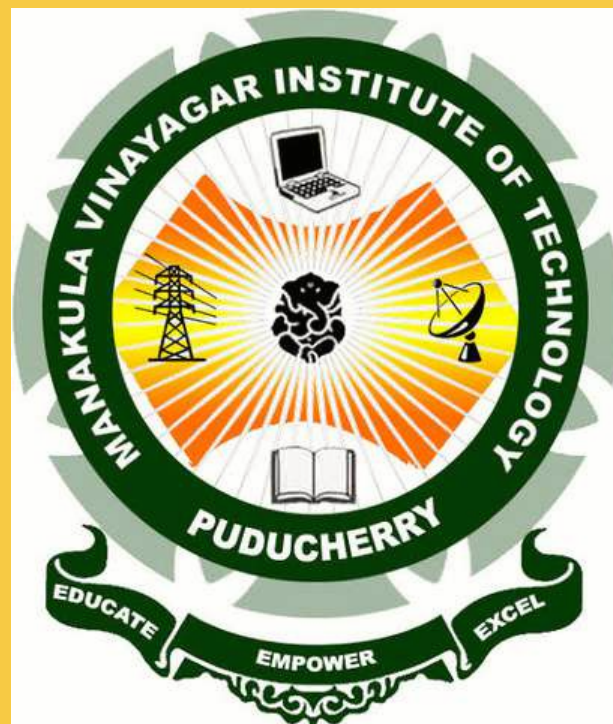


Winner of India International Science Festival 2021 by K.Manoj Kumar, Lavanya.V under Engineering category December 10 to 13 2021

FAREWELL

ELECTRONICS AND COMMUNICATION ENGINEERING

FAREWELL CELEBRATION: 2022 BATCH



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BADMAPRABA II YEAR ECE B

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