

# YOUTH ESTA

SEMI-ANNUAL MAGAZINE

E-MAGAZINE VOL #2



**AVANTHI INSTITUTE OF ENGINEERING & TECHNOLOGY**

**Department of**

**CSE - Data Science, Artificial Intelligence & Machine Learning**

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**DEPARTMENT HIGHLIGHTS OF CSE - DS, AI & ML****CSE - DATA SCIENCE :**

The CSE - Data Science department was established with B.Tech Program in 2020 with intake of 60 students. The world is awash in huge volume of data and currently data scientist specialists are needed for unlocking its potential for various organizations. The B.Tech Computer Science and Engineering program with specialization in Data Science is an innovative, exponentially rising field which consists of a set of tools and techniques used to extract useful information from data. It emphasizes to enhance student skills in Data Science by imparting them mathematical models with engineering and scientific principles to unravel solutions for real time problems. Due to the large growth in the scope of data, every business depends on data-driven decision making. The curriculum of this program is systematically designed to expose students to various data analysis areas such as data mining, statistics, predictive analysis, programming for data science, data visualization etc., The undergraduates of this program go on to become Data Scientists, Data Engineer, Data Warehouse Architect, Business Intelligent Analysts, Big Data Architects and Research Scientist.

**CSE - AI & ML :**

The CSE - Artificial Intelligence and Machine Learning department was established with B.Tech Program in 2020 with intake of 60 students and this was increased to 120 students in 2022-2023. Artificial Intelligence (AI) and Machine Learning (ML) are the demanded technologies in the industry for design and development of intelligent systems. Government of India is focusing on boosting AI sector in India for extending its applications to various initiatives viz., smart cities, precision agriculture, healthcare etc. The B.Tech Computer Science and Engineering program with specialization in Artificial Intelligence and Machine learning program is intended at studying, designing, developing, implementing, support and management of computer-based information systems. This specialization will enable the student to design and develop various intelligent systems with cutting edge technology courses viz., artificial intelligence, machine learning, computer vision, robotics, mobile application development, deep learning and natural language processing etc. The program will nurture the student skills in AI and ML to provide the scalable solutions for the industry technological problems. The undergraduates of this program go on to become Machine Learning Engineer, Machine Learning Research Engineer, Artificial Intelligence Research Engineer, Big data Scientist and Robotics Professional etc.



**AVANTHI INSTITUTE OF ENGINEERING & TECHNOLOGY**

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## ***E-MAGAZINE - YOUTHESTA VOL#2***

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- Mrs. B Renuka Sai  
Asst. Prof., CSMD Dept.
- Mrs. R Bhavani  
Asst. Prof., CSMD Dept.

## MESSAGES

## FROM THE CHAIRMAN DESK

**Sri. M Srinivasa Rao**

Ex Minister Govt. of AP,  
MLA, Bheemili.

Founder's & Chairman of  
Avanathi Group of Educational  
Institutions.

Welcome to the Department of CSE - Data Science, Artificial Intelligence & Machine Learning, Avanathi Institute of Engineering & Technology. It gives me pride and pleasure to introduce CSE - DS, AI&ML. The Department of Computer Science has designed innovative UG program in CSE - DS, AI&ML. Our aim is to provide a high quality engineering education to our students with adequate hand-on experience. Faculty members in the department have expertise in the areas of Wireless Networks, Data Networks, Big Data, Data Analytics, Data Science, Machine Learning, Artificial Intelligence, Cloud Computing, Image Processing, Information Retrieval and are guiding carrying out active research. Our department looks forward to contribute in solving technological challenges of society with active participation from all sections of the society.

## FROM THE PRESIDENT DESK

**Smt. M Gnaneswari**

President,  
Avanathi Group of Educational  
Institutions.

It gives me immense pleasure to note that the second Magazine of "YOUTHTESTA" CSE - Data Science, Artificial Intelligence & Machine Learning department is being released. Kudos to the editorial team. When we have a glance at the Magazine, it is heartening to see that training the head and the heart of staff and students had quietly happened over the past six months. The staff and students will get more recognition awards/achievements they won are publicized through the Newsletter. It would definitely be an inspiration and motivation for other students and staff to scale newer heights.

## MESSAGES

## FROM THE CHAIRMAN DESK



**Dr. M Priyanka**  
General Secretary,  
Avanathi Group of Educational  
Institutions.

It is a matter of great pride and satisfaction for Avanathi Institute of Engineering & Technology to bring out the Magazine 'YOUTHESTA' Released from the Department of CSE - Data Science, Artificial Intelligence & Machine Learning. The College has made tremendous progress in all areas academic, non-academics, capacity building relevant to staff and students. I am confident that this issue of Department Magazine will send a positive signal to the staff, students and the person who are interested in the Technical education and Technology based activities. A Magazine is like a mirror which reflects the clear picture of all sorts of activities undertaken by a Department and develops writing skills among students in particular and teaching faculty in general. I congratulate the Editorial Board of this Magazine who have played wonderful role in accomplishing the task in Record time. I express my heartfelt Congratulations to staff members and Students for their fruitful effort. With Best Wishes.

## FROM THE PRESIDENT DESK



**Sri. M V S S Nandish**  
Vice President,  
Avanathi Group of Educational  
Institutions.

Greetings and welcome to the maiden issue of the "YOUTHESTA" CSE - Data Science, Artificial Intelligence & Machine Learning department Magazine! A Magazine inspires and motivates students and staff alike, for it reminds them of the zeal that they had once to do something extraordinary. We were overwhelmed by the response that we received from the coordinators, heads of departments and faculty members of CSE - Data Science, Artificial Intelligence & Machine Learning department in making this Magazine possible. In this magazine, we have reported significant achievements of the Departments, Staff and Students. I am glad to acknowledge the kind support that I received directly and indirectly, to bring out the magazine on time

## MESSAGES

## FROM THE MANAGING DIRECTOR DESK

**Sri. I Sravan Kumar**

Managing Director,  
Avanathi Group of Educational  
Institutions.

It is my pleasure to congratulate the editorial board on this pleasant occasion of releasing the magazine for the period June to December 2022. It is great to find a considerable number of winners and participants in co-curricular and extracurricular activities which certainly prove that our staff and students are adequately equipped and possess necessary quality skill-sets to bring such laurels to the institution. I wish that this number may grow in the years to come. I am sure that publishing a magazine of this sort containing the achievements of the family will be a recognition to them. I wish them all the very best for future endeavors

## FROM THE PRINCIPAL DESK

**Dr. S N V Ganesh**

Principal,  
Avanathi Institute of Engineering  
& Technology.

We are in an era that witnesses an alarming growth in the field of CSE - Data Science, Artificial Intelligence & Machine Learning. This unprecedented growth paved the way for the best learning as well as umpteen career opportunities. Presentations, group discussions, seminars, workshops, conferences and various other programs helps to improve the overall personality of the students. The department has a very good infrastructure and seasoned faculty who are research oriented and are involved in contributing their research papers in various national and international journals. Industry- Institute collaboration at regular intervals helps to bridge the gap between the academia and industry. An institution's name is based on its alumni . We are proud to say that our alumni are placed in reputed multinationals like Wipro, Accenture, HCL , Cognizant, IBM and many more. All through these years our placement track record is outstanding. I am sure that the department of CSE – DS, AI&ML will work aggressively towards the path of excellence and uncover new frontiers in learning.

## MESSAGES

## FROM THE DIRECTOR - HR DESK



**Dr. A Chandra Sekhar**  
Professor, Director - HR,  
Avanthi Institute of Engineering  
& Technology.

The scope of CSE - Data Science, Artificial Intelligence & Machine Learning is endless and it is the favorite in every college. New age courses like Artificial Intelligence and Data Science are also well received by many students. After covid, the demand for Computer Science graduates is higher than ever. At Avanthi Institute of Engineering and Technology, the branch of CSE – DS, AI & ML continues to grow and thrive at an alarming rate both in student capacity and knowledge sharing quality. Industry-Institute interactions, presentations, conferences, seminars, guest lecturers keep the students and faculty abreast with the latest trends in the competitive world. 100% placement facility is the hallmark of the department. The department is garnered by a team of hard working faculty members who strive and thrive to implement the best and the latest teaching practices. All in all the department welcomes all trends in learning and prepares the students to face the corporate world with confidence.

## FROM THE HOD DESK



**Mrs. P Srilakshmi**  
Assoc. Professor and  
Head of CSD&M Dept.

It is immense pleasure to present this semi-annual magazine “YOUTHESTA” CSE - Data Science, Artificial Intelligence & Machine Learning department is the dynamic and vibrant department with the blend of young and experienced Faculty. Department is actively involved in academic as well as research work in current areas of Data Science, Machine Learning and multi-disciplinary streams. The department has well equipped labs with the state of art software and hardware. The faculty members are constantly publishing technical papers in national and international journals and conferences. The department is fortunate to have dedicated teachers, devoted students, and committed supporting staff and expert technical staff. Specially, I encourage my students to participate in various extra-curricular activities, research work and competitive exams. My best wishes to all for their bright career and successful life.

## STUDENT ARTICLES

## BLOCKCHAIN TECHNOLOGY



Blockchain technology is an advanced database mechanism that allows transparent information sharing within a business network. A blockchain database stores data in blocks that are linked together in a chain. The data is chronologically consistent because you cannot delete or modify the chain without consensus from the network. As a result, you can use blockchain technology to create an unalterable or immutable ledger for tracking orders, payments, accounts, and other transactions. The system has built-in mechanisms that prevent unauthorized transaction entries and create consistency in the shared view of these transactions.

The importance of blockchain is to avoid potential legal issues, a trusted third party has to supervise and validate transactions. Traditional database technologies present several challenges for recording financial transactions. For instance, consider the sale of a property. You can use blockchain technology to create an unalterable or immutable ledger for tracking. Industries use blockchain in different ways like ENERGY, FINANCE, RETAIL, MEDIA and ENTERTAINMENT. Blockchain works as follows. Record the transaction, Gain consensus and Link the blocks, Share the ledger. At last the types of blockchain networks are public blockchain networks, private blockchain networks, hybrid blockchain networks and consortium blockchain networks.

**REF:** <https://aws.amazon.com/what-is/blockchain>



**R Sravya**  
21Q71A4446



**A Tanuja**  
21Q71A4402

## Tiny ML Attempts To Integrate ML and IOT

Machine learning (ML) algorithms enable the discovery of interesting patterns in this data, which are beyond the comprehension of manual analysis and inspection. The convergence of IoT devices and ML algorithms enables a wide range of smart applications and enhanced user experiences, which are made possible by low-power, low-latency, and lightweight machine learning inference, i.e., tiny ML. Many industry verticals are being revolutionized by this convergence as articulated.

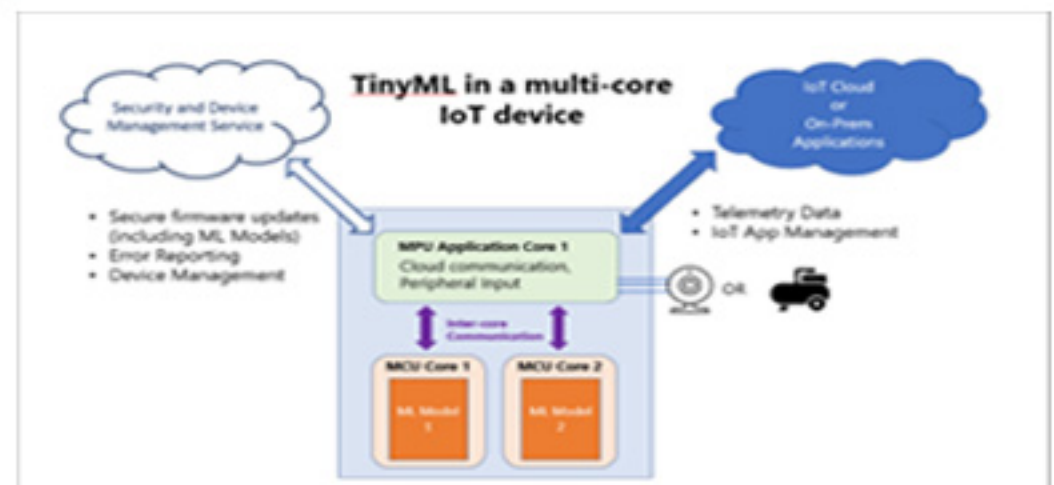


**M Rupamani**  
21Q71A4231



**S Lavanya**  
21Q71A4245

**Ref:** <https://www.embedded.com/building-effective-iot-applications-with-tinyml-and-automated-machine-learning/>



IoT enables continuous monitoring of environments and machines using tiny sensors. Advances in sensor technologies, micro controllers, and communication protocols made mass production of IoT platforms, with many connectivity options, possible at affordable prices. Due to the low cost of IoT hardware, sensors are being deployed on a large scale at public places, residential, and on machines. These sensors monitor the physical properties associated with their deployment environments, 24/7, and generate a huge amount of data. For example, accelerometers and gyroscopes deployed on a rotating machinery are constantly recording the vibration patterns and angular velocity of the rotor attached to the shaft. Air quality sensors continuously monitor the gaseous pollutants in the air, indoors or outdoors. Microphones in a baby monitor are always listening. Sensors inside smart watches constantly measure vital health parameters. Likewise, various other sensors like magnetometer, pressure, temperature, humidity, ambient light, etc., measure physical conditions wherever they are deployed.



## STUDENT ARTICLES

## AutoML



It is among the current trends in data science. In addition to democratizing data science, AutoML is a trend causing the "democratization" of machine learning. Anyone can create ML-based apps using tools and platforms developed by autoML solution developers. The training is designed to address the most pressing problems in their fields but is primarily geared towards subject matter experts lacking the coding skills required to apply AI to those challenges.

It's standard for data scientists to spend significant time cleaning and preparing data - repetitive and mundane tasks. The basic idea behind machine learning is to automate these tasks, but it has evolved to include building models, algorithms, and neural networks. Through simple, user-friendly interfaces that keep the inner workings of ML out of sight, anyone with a problem that they want to test will be able to apply machine learning.

**Ref:**<https://towardsdatascience.com/an-introduction-to-tinymml-4617f314aa79>



**P Shivam Rao**  
21Q71A4436

## TESLA CARS: AUTOPILOT

In recent years, Tesla has revolutionized the automotive industry with their cutting-edge use of Artificial Intelligence (AI) and Machine Learning (ML) technologies. From self-driving cars to automated manufacturing and power systems, Tesla has leveraged AI and ML to revolutionize the way we think of transportation. Tesla's Autopilot system is a perfect example of how AI and ML are being used to make safer and smoother. Autopilot is an advanced driver assistance system that uses a combination of cameras, radar, and ultrasonic sensors to detect the surrounding environment and make decisions about navigation, speed, and lane changes. The system is constantly learning from its environment and the data it collects, allowing for more accurate decision-making over time.



**A Lokesh**    **U Ratnahari**  
21Q71A4202    21Q71A4246

Another major application of AI and ML in Tesla is their automated manufacturing and power systems. Tesla uses advanced ML algorithms to optimize their production lines, making them more efficient and reducing costs. The same technology is used to monitor and maintain the power systems in their vehicles, ensuring that all components are running at optimal performance. Finally, Tesla has used AI and ML to create a revolutionary digital assistant that helps drivers get the most out of their cars. By using natural language processing, the assistant can understand spoken

**Ref:**<https://beta.openai.com/playground>

## STUDENT ARTICLES

## Artificial Intelligence-as-a-service(AIaaS)



Artificial Intelligence as a Service (AIaaS) is the third-party offering of artificial intelligence (AI) outsourcing. AIaaS allows individuals and companies to experiment with AI for various purposes without large initial investment and with lower risk. Different AI provider platforms offer a number of styles of machine learning and AI. AI cloud offerings, including Amazon Machine Learning, Microsoft Cognitive Services and Google Cloud Machine Learning, can help organizations learn what might be possible with their data.

AIaaS is accessible to even those who do not have an AI-skilled programmer on board - just add a layer of no-code infrastructure to the game. Companies that truly provide AIaaS often do not require any coding or tech skills at any point in the setup process. Before AIaaS, strong and fast GPUs were required to run successful AI and Machine Learning models. Most SMEs don't have the resources and time to develop software in-house. In the world of AI, there are a few rules of thumb - one of them is that your model will only perform well in doing a task if the data it's been fed is of good quality. AIaaS being customizable, will offer the opportunity to build a specific task-oriented model on top of the abundance of data most organizations sit on top of already.



V Meghana  
21Q71A4454

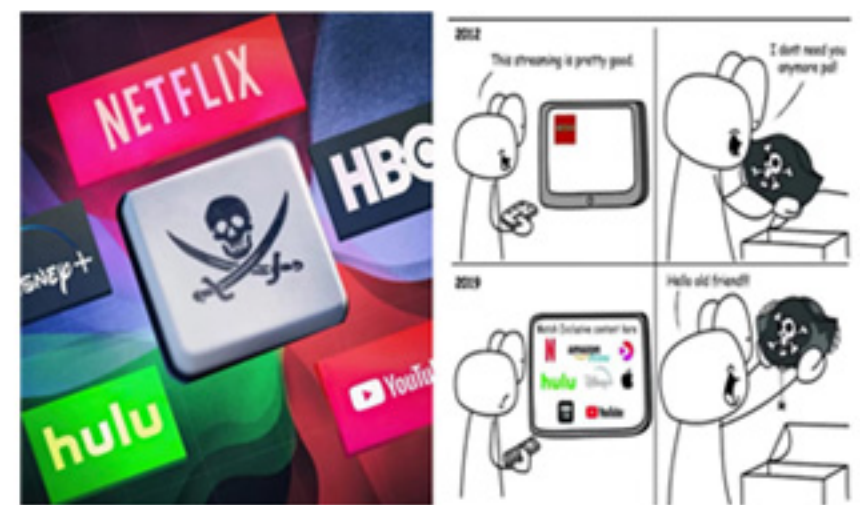


S Mounika  
21Q71A4450

**Ref:** <https://levity.ai/blog/aiaas-guide>

## How we use AI to help defeat video piracy ?

There are several ways in which artificial intelligence (AI) can be used to help combat video piracy: Content identification: AI-powered tools can be used to identify pirated content by comparing it to a reference copy. This can be done by analyzing various characteristics of the video, such as the audio and visual components, to determine whether it is an authorized copy or not. Watermarking: AI can be used to embed watermarks into videos, which can help identify the source of a pirated copy. These watermarks can be invisible to the human eye, but can be detected by AI-powered tools.



Detection of pirated streams: AI can be used to monitor online platforms and detect when a pirated stream of a video is being shared. This can help identify the source of the pirated content and allow rights holders to take appropriate action. Digital rights management: AI can be used to enforce digital rights management (DRM) systems, which can help protect against unauthorized access and copying of video content. Overall, AI can be a powerful tool in the fight against video piracy, as it can help identify and track pirated content and allow rights holders to take appropriate action to protect their content.



N Vikas Kumar  
21Q71A4233



K Dileep Kumar  
21Q71A4224

**Ref:** [https://www.google.com/amp/s/www.viaccess-orca.com/blog/ai-video-piracy%3fhs\\_amp=true](https://www.google.com/amp/s/www.viaccess-orca.com/blog/ai-video-piracy%3fhs_amp=true)  
<https://www.medianova.com/en-blog/how-can-ai-be-used-to-beat-video-piracy/>

## STUDENT ARTICLES

## FOCUS ON EDGE INTELLIGENCE:



Our day begins with our smartphones and ends with smart televisions, and in the middle, we use countless other technological provisions which we don't even remember. With the advent of the internet, the world is more connected than ever. Throughout the day, we generate, use, and transmit a significant amount of data. In the year 2022, the global volume of data is forecasted to be 97 zettabytes (ZB), and by 2025 it is likely to reach 181 ZB. Conventionally, data was stored locally and was managed by the data owner, but with the advancement of cloud computing technologies, the process of storing, securing, and managing the data revolutionized.

However, the enormous generation and transmission of data exercises pressure on the network infrastructure as it requires high energy and is affected by latency. To ease this pressure from the cloud, networking and computing capacity should be closer to the locations of data generation. This also results in effectiveness in managing and processing data, and here is where edge computing comes into the picture. Edge Computing + AI = Edge Intelligence. Edge intelligence refers to edge computing based on artificial intelligence. While edge computing is an extension of cloud computing to push cloud services to the proximity of end-users, on the other hand, edge intelligence pushes deep learning computations from the cloud to the edge at its best.



L. Madhavi Latha  
21Q71A4456

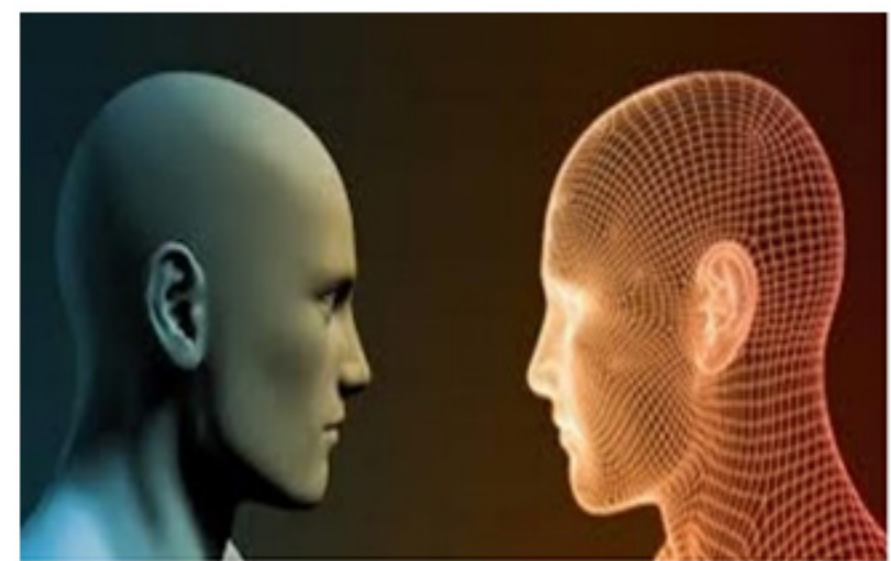


N. Haritha  
21Q71A4431

**Ref:** <https://hrishabh.medium.com/focus-on-edge-intelligence-3a0e757aefd>

## HOW AI IS USED TO FIND DEEP FAKE FACES ?

There are a number of approaches that can be used to detect deepfake videos. One approach is to use machine learning algorithms to analyze the video and look for inconsistencies or abnormalities that might indicate that the video has been manipulated. This could include analyzing the movements of the person in the video, the audio, and other visual clues. Another approach is to use a combination of machine learning and human verification. For example, an AI system might be able to identify potential deepfake videos and flag them for review by a human expert, who can then verify whether or not the video is authentic.

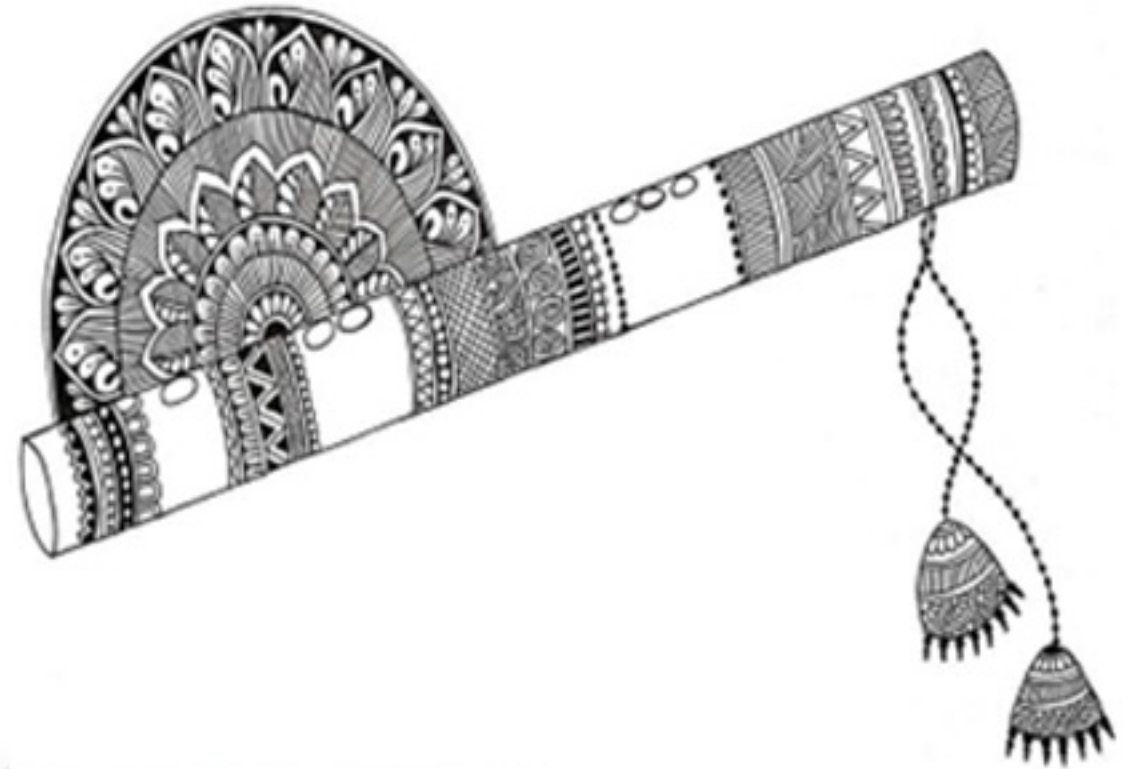


B. Navaneeth - 21Q71A4233

There are also several companies and organizations that are working on developing AI systems specifically designed to detect deepfake videos. For example, Facebook has announced that it is working on developing an AI tool that can detect deepfake videos, and there are other companies such as Deeptrace and Sensity that are also working on similar solutions. It is important to note that detecting deepfake videos can be challenging, as the technology used to create them is constantly evolving. As such, it is likely that AI-based detection systems will need to be regularly updated and improved in order to stay effective.

**Ref:** <https://www.mygreatlearning.com/blog/all-you-need-to-know-about-deepfake-ai/>

STUDENT ARTS



Muddada Rupamani (II CSM 21Q71A4231)



T Namratha (II CSD 21Q71A4452)



S Lavanya (II CSM 21Q71A4245)

STUDENT ARTS



Komara Mounika (II CSM 21Q71A4222)



Vemula Keerthi Reddy (II CSD 22Q75A4207)

STUDENT ARTS



Illa Bhavika (II CSD 22Q75A4402)



M Sridevi (II CSD 21Q71A4426)



B Maheswari (II CSM 21Q71A4204)

STUDENT POETRY

EXAMS!!!

My examination was near  
I had so much fear  
I was tensed as ever ,  
As I know I'm not very clever,  
I studied till late night  
For my answers to be right.  
The examination day was creepy  
And I was sleepy.  
I have to pass,  
Else I have to repeat the class  
I was shocked to see  
The question paper so easy  
I was filled with glee.  
My examination was gone.  
And my fear was gone

P Toya Jakshi  
(II CSM 21Q71A4238)

FACULTY ARTS

Mrs. Sangita Mishra  
Asst. Professor.



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**IMPORTANT FACTS**

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**CSE - DATA SCIENCE:**

- Data is Never Clean.
- There is No Full Automated Data Science..
- Big Data is Just a Tool.
- Data Scientists and Data Analysts are Not Same.
- Data Science is Not Just Excel Sheet.
- More Data Does Not Always Mean More Accuracy.
- Data Science Field has Different Role, Not Just Data Scientists.

FOR BRIEF REF: <https://codinghero.ai/intresting-facts-about-data-science/>

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**CSE - AI & ML:**

- AI can predict earthquakes and volcanoes and many other natural disasters.
- AI is restoring vintage and damaged photos.
- AI is helping us fight cancer.
- The meaning of Machine Learning is learning from data.
- The main component of Machine Learning is Data.
- Machine Learning results depend on the Data you entered to train it.
- Poor data representation affects the working of Machine Learning.
- Data Transformation is the hardest part of ML work.

**FOR BRIEF REF:**

1. <https://www.sprintzeal.com/blog/facts-about-artificial-intelligence>
2. <https://hackernoon.com/machine-learning-10-facts-everyone-needs-to-understand>



# OUR INSTITUTIONS

AVANTHI DEGREE & P.G. COLLEGE  
Barkatpura & Narayanguda, Hyderabad.

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Dilsukhnagar, Hyderabad. (ICET CODE: AN/NT)

AVANTHI INSTITUTE OF ENGINEERING & TECHNOLOGY  
Gunthapally, Near Ramoji Film City. Hyd. (EAMCET CODE: AVIH)

AVANTHI INSTITUTE OF PHARMACEUTICAL SCIENCES  
Gunthapally, Near Ramoji Film City, Hyd. (EAMCET CODE: AVHP)

AVANTHI'S SCIENTIFIC TECHNOLOGICAL & RESEARCH ACADEMY  
Gunthapally, Near Ramoji Film City. Hyderabad. (EAMCET CODE: ASRA)

AVANTHI P.G. & RESEARCH ACADEMY  
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Makavarapalem, Visakhapatnam. (EAMCET CODE: AVEN)

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Garvidi, Vizianagaram. (EAMCET CODE: STIC)

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**Cherukupally. Near Tagarapuvalsa, Vizianagaram. (EAMCET CODE: AVEV)**

AVANTHI INSTITUTE OF PHARMACEUTICAL SCIENCES  
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Basavapalem (V), Bhogapuram (M). Vizianagaram. (EAMCET CODE: ARTB)