

PROUD TO BE AN INDIAN

Being proud to be Indian encompasses a multitude of aspects that make the nation unique and admirable. From its rich cultural heritage and traditions to its resilience and diversity, India stands as a symbol of unity amidst diversity. Its contributions to science, technology, arts, and literature are celebrated worldwide. Additionally, India's commitment to democracy, secularism, and social progress reflects its values of inclusivity and equality. Embracing these qualities fosters a sense of national pride and solidarity among its citizens, reinforcing the notion that being Indian is a source of honor and distinction. India's achievements, such as the Chandrayaan 2 mission, Olympic gold medals, and economic growth, symbolize the nation's remarkable progress and potential on the global stage, instilling a sense of pride and inspiration among its people.



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Dream Institute of Technology aspires to build a strong technical foundation fornew age engineering students. We impart skill-based industry driven knowledge over and above university defined curriculum. This will help to develop the broad technical outlook required for students to survive in this competitive market. We always encourage collaboration between students and faculties, reciprocity and cooperation among students, active learning, prompt feedback and experiential learning beyond classroom. Dream Institute of Technology imparts effective learning skills that helps student to accurately remember information learnt, recall them at the right point of time and utilize them effectively in a wide variety of situations. We encourage students to attend their classes in the college regularly, so that they can build up the habit of attending the workplaces punctually. Besides knowledge, discipline is very much essential for every individual to succeed professionally. At Dream Institute of Technology, discipline is maintained on a priority basis within the college campus. Every student in our institute is made tounderstand that there can be no short-cut to success. I feel privileged to be apart of this institution and hope to fuel the intellectual energies of all our students with the support of dedicated faculty members of our institute.

MESSAGE

PRINCIPAL'S MESSAGE





PROF.(DR.)DIPANKAR SARKAR

India is a fast emerging destination for cutting-edge research & development. In the year 2020 India will be in need of large talent pool not only in information technology but also in other fields like nanotechnology, agricultural science, manufacturing etc. Our students must be equipped to meet these upcoming challenges "Dream Institute of Technology"has become one of the leading engineering institutionin West Bengal as well as in India. Within a short span of time the institute has created a niche for itself by providing lucrative career opportunities esteemed recruiters like TCS, Cappemini, Infosys, Reliance, Accenture, Wipro- spectra mind, Satyam Computers, Cognizant, etc.We have well-equipped computer labs, central computer center and departmental labs to equip students as quality engineers not only in the core sectors but also in the field of software engineering. Dream Institute of Technology, a state-of-the-art engineering institute provides wellequipped workshops and advanced learning resources. From a modest beginning in July 2006, the Dream Institute of Technology made a pledge to create the ideal environment for young, fresh, talents to realize and optimize their potentials. We facilitate students to develop a symbiotic relationship between the community, society, and the institution. We are at work in unison to ensure a tremendous value-addition among our students during their four years' of stay with us. At the same time, we are also confident to ensure that the alumni of our college always feel proud of their institution of choice in the days ahead of us.

DREAM INSTITUTE OF TECHNOLOGY





To be a prominent institution passionately developing competent technocrats capable of serving the nation and the world



To promote Inter-departmental collaborative projects & research and improve publications and Initiate Internal Revenue Generation activities through consultancy, continuing education programs etc. (Obtain at least 5 projects every year) involving students wherever possible.

To provide state-of-the-art teaching-learning ambiance to promote student-centric learning using the latest ICT tools and start new programs at UG & PG levels in cutting edge technology

Continuous faculty development initiatives to update their knowledge and skills.

Set up Incubation and innovation cells and encourage students to innovate and establish start-ups.

Expand community outreach program through sharing of technical expertise with the aim to encourage experiential learning among students.



I did my duty.
I paid the supreme price,
I pray you will remember,
My sacrifice.
My life was short
I did my best,
God grant me peace
I my eternal rest.

A SOLDIER



The Life and Role of a Soldier: Sacrifice, Valor, and Commitment

In-depth exploration of the life and role of a soldier. It delves into the sacrifices, valor, and unwavering commitment that soldier's exhibit in their service to their nation and their fellow citizens. Through a comprehensive examination of the soldier's responsibilities, challenges, and contributions, the report sheds light on the critical role soldiers play in maintaining peace, security, and stability.

Soldiers are integral to the defense of a nation, embodying qualities of courage, discipline, and duty. This report seeks to elucidate the multifaceted nature of a soldier's life, highlighting their roles on the battlefield and within society, as well as the challenges they face.

The Role and Responsibilities of a Soldier:

Soldiers are tasked with defending their country's sovereignty, protecting its citizens, and upholding its values. They undergo rigorous training to develop physical fitness, combat skills, and tactical knowledge. Beyond combat, soldiers may also be involved in humanitarian missions, disaster relief, and peacekeeping efforts on a global scale.

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Sacrifices and Challenges:

The life of a soldier is characterized by sacrifices that extend beyond physical endurance. Prolonged separations from family, exposure to hazardous conditions, and the psychological toll of combat can deeply impact soldiers' well-being. Coping with trauma and readjusting to civilian life post-deployment pose significant challenges.





"Either I will come back after hoisting the Tricolor, or I will come back wrapped in it."

Valor and Courage:

Valor is a cornerstone of a soldier's identity. Demonstrated through acts of bravery and selflessness, soldiers often put their own lives at risk to protect their comrades and fulfill their duty. Stories of soldiers' heroism underpin the collective admiration society holds for their service.

"If a man says he is not afraid of dying, he is either lying or he is a Gorkha."

Training and Preparation:

Soldiers undergo rigorous training that includes physical conditioning, tactical drills, and simulations to ensure their readiness for combat situations. This training not only equips them with essential skills but also fosters discipline, teamwork, and adaptability.







The Impact on Society:

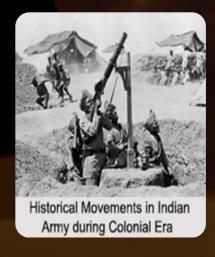
Soldiers play a vital role in shaping national identity and security. Their sacrifices inspire patriotism, unity, and appreciation for the freedoms they safeguard. Beyond military functions, soldiers often become symbols of resilience and determination, reminding civilians of the importance of unity and sacrifice.

Evolution of Soldiering:

The nature of warfare and soldiering has evolved with advancements in technology and changes in geopolitical dynamics. Soldiers now engage in cyber warfare, intelligence operations, and counter-terrorism efforts, highlighting their adaptability in the face of emerging threats.







Recognition and Support:

Governments and societies recognize the importance of supporting soldiers through benefits, healthcare, and programs aimed at addressing their physical and mental well-being. Acknowledging and addressing the challenges soldiers face is crucial to ensuring their successful reintegration into civilian life.









In conclusion, a soldier's life is one characterized by sacrifice, valor, and commitment to duty. Their unwavering dedication to safeguarding their nation and its citizens has a profound impact on society. As the world continues to evolve, soldiers play an indispensable role in upholding peace and security while embodying the virtues of courage, discipline, and resilience. Recognizing and honoring their contributions is essential in fostering a strong and united society.













"Our flag does not fly because the wind moves it, it flies with the last breath of each soldier who died protecting it."

Dream Institute Of Technology

EMERGING TRENDS IN INTERNET OF MEDICAL THINGS (IOMT) AND APPLICATIONS

Internet of things (IoT) is the extension of Internet connectivity into physical devices and everyday objects. The Objects are embedded with electronics, Internet connectivity and other forms of hardware (such as sensors). It Collect and analyse device sensor data to take corrective or preventive action automatically. A wide variety of cheap sensors (wearable, implanted, and environmental) have the possible to create Internet of Medical Things (IoMTs).

ARTICLE



The Internet of Things (IoT) describes physical objects embedded with sensors and actuators that communicate with computing systems via wired or wireless networks allowing the physical world to be digitally monitored or even controlled. As for example, the internet of things is a technology that allows us to add a device to an inert object (for example: vehicles, plant electronic systems, roofs, lighting, etc.) that can measure environmental parameters,

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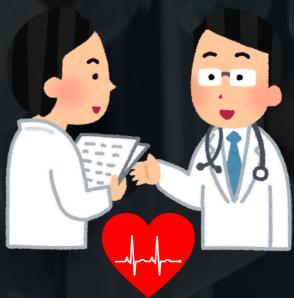


Generate associated data and transmit them through a communications network. In this way, one can conserve the energy and utilising this conservation of energy, Energy Modelling of a Building is also to be formed.

Internet of Medical Things is the collection of medical devices and applications that connect to healthcare IT systems. The benefits are, IoMT can automatically identify and track patient's health. Monitors the biomedical devices and helps patients to intake correct medicine. It supports doctors to diagnosis patient's disease in an accurate manner. It also helps old age people to take care of themselves.

The IoMT have several services and applications, like Ambient Assisted Living, Advanced Drug Reactions, Children Health Information, Indirect Emergency Healthcare and if you talk about the applications, like Glucose Level Sensing, ECG Monitoring, Blood Pressure Monitoring, Body Temperature Monitoring, Oxygen Saturation Monitoring etc.



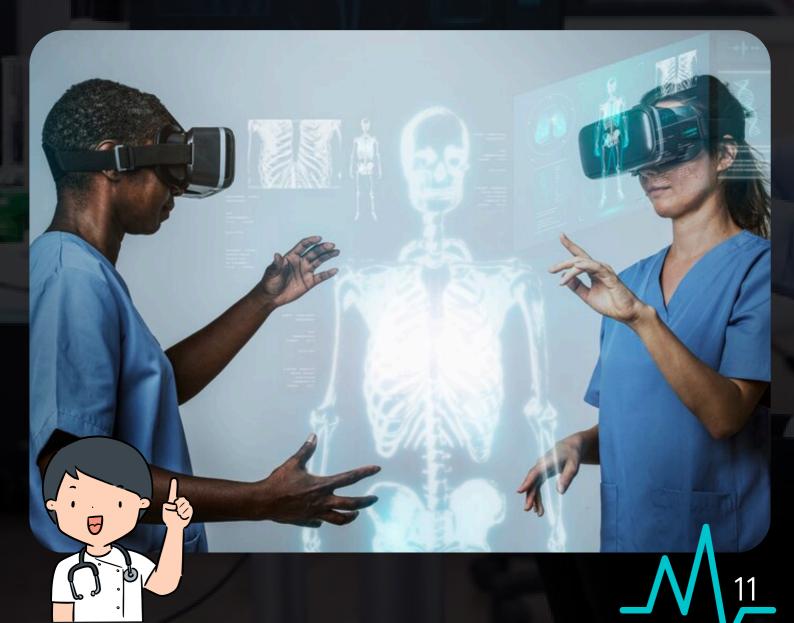


Some research trends are also there in IoMT, like Security and Privacy in IoMT where Robust encryption, authentication mechanisms, and access controls are implemented to safeguard sensitive patient information. Ensures protection against unauthorized access and potential data breaches. The other key security features are like, Secure Authentication Protocols, Data Encryption Techniques, Secure Communication Protocols, User-Friendly Security Measures and Security Audit and Compliance.

Another application of IoMT have, Real-time Patient Monitoring where it Involves continuous tracking of a patient's vital signs and health parameters using IoMT devices and provides immediate alerts to healthcare providers in emergencies or significant changes in a patient's condition.

IoMT has Telemedicine and Remote Healthcare type of advantages where it Integrates IoMT devices to remotely monitor patients and conduct virtual consultations and Improves access to medical care, especially in areas with limited healthcare resources.

And lastly it has some ethical and Regulatory Aspects of applications. It actually Addresses concerns related to patient consent and data ownership in IoMT. It also Ensures compliance with healthcare regulations and ethical use of IoMT technology.





Cultivating Student Learning with Al Writing Tools: Advantages, Challenges, and Future Possibilities

The incorporation of artificial intelligence (AI) has resulted in a new era of possibilities in the rapidly developing academic environment, transforming how students learn as well as how educators educate. Among the many developments, AI writing tools have become powerful instruments for influencing how writing is taught and learnt. These revolutionary tools use advanced AI algorithms to provide students immediate feedback, customised instruction, and creative inspiration. While AI writing tools have unquestionable benefits, they also present challenges that teachers and educational organisations must properly negotiate. This article discusses several advantages of incorporating AI writing tools into student learning, considers the difficulties they present, and speculates on the potential benefits of their further growth.

The immediate feedback and revision support that AI writing tools provide to students is one of their most important benefits. The days of waiting for lecturers to read essays and give feedback are long gone. Students that use AI writing tools get real-time corrections for spelling, grammatical, and punctuation mistakes as they write. For instance, a high school student writing a history essay may get quick feedback on any spelling errors and bad citations, allowing them to make the required changes right away. Additionally, AI writing tools offer a personalised learning environment that meets the demands of each unique learner. These programmes customise their feedback and suggestions by looking at students' writing habits and preferences. For instance, an elementary school student who struggles with verb tenses can get specific recommendations to help them with use, but a more advanced student would get more sophisticated word ideas to help them write more effectively.

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Further more, AI writing tools encourage critical thinking and creativity in students. These tools not only point out technical faults but also recommend other sentence structures, vocabulary, and aesthetic choices. Think about a middle schooler who is writing a descriptive essay. To assist the learner in generating a more interesting and inventive piece of writing, the AI writing tool may recommend descriptive adjectives and expressive language.

Al writing tools also encourage inclusion and accessibility in the educational setting. It may be difficult for students with dyslexia or linguistic problems to write. By helping these students with spelling and grammar, Al technologies offer crucial support, freeing them up to concentrate on structuring their thoughts and communicating more clearly. Additionally, the writing process is also made more time-effective by Al writing tools. Students can devote more time to studying and honing their ideas by automating the proofreading and editing processes. This time-saving feature is especially useful in pressure-filled circumstances where students must submit polished writings on very short notice, like college

applications.



Numerous Al writing tools have made a substantial impact including student learning. Grammarly, Turnitin, Google Docs, Chat GPT Hemingway ProWritingAid, QuillBot, WriteLab, Slick Write, CiteSmart Al, WriteWell, Essaybot, PaperRater, and Draftable. These programmes include instantaneous grammar and spelling corrections, plagiarism checking, enhancement. help paraphrasing, and more. They assist students with a variety of writing assignments, from essays to research papers, and help them develop as more proficient and assured writers.





3-D POSITION TRACKING USING A GLOBAL NAVIGATION SATELLITE SYSTEM:

The Global Positioning System (GPS) is a space-based radio positioning and navigation system that will provide three-dimensional position, velocity, and time information to suitably equipped users anywhere on or near the surface of the earth. The Global Positioning System (GPS) is a system of 31 satellites that circle the earth twice a day in a very precise orbit and transmit information to the earth. The GPS navigator we used during our project must continuously see at least four of these satellites to calculate our position. By using a timetable of satellite numbers and their orbits stored in the receiver's memory, the receiver can determine the distance and position of any GPS satellite and use this information to compute your position. Satellites send radio signals to receivers that are on the earth \$\%#39;s surface. Using these signals, the receiver calculates its location on earth. A GPS receiver needs four satellites to provide a three-dimensional (3D) fix and three satellites to provide a twodimensional (2D) fix. A three-dimensional (3D) fix means the unit knows its latitude, longitude, and altitude, while a two-dimensional (2D) fix means the unit knows only its latitude and longitude. The satellites share a common time system known as 'GPS' time' and transmit (broadcast) a precise time reference as a spread spectrum signal at two frequencies in L-Band: L1 = 1575,42 MHz and L2 = 1227,6MHz. Two spreadspectrum codes are used: a civil coarse acquisition (C/A) code and a military precise (P) code. L1 contains both a P band and a C/A code, while L2 contains only the P code. The accuracy of both codes is different. The receiver of the civil code cannot decode the military P code when the security status 'Selective Availability' in GPS satellites is turned on. The navigation signal simulator can generate signals consistent with real GNSS (Global Navigation Satellite System) signals, which can be processed by GNSS receivers in the same manner as they process satellite signals in a real testing environment. The simulator can offer a high-fidelity means of testing GNSS receivers and other related systems. Such tests can be carried out in laboratories due to the control of the GNSS constellation and global atmospheric environment by a single device. The navigation signal simulator, which can provide a real-like environment for the research and testing of navigation receivers, has been the key instrument for developing navigation systems and receiving devices, particularly high-dynamic receivers.

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Therefore, it has increasingly received widespread attention in the military and industrial sectors. With the development of a variety of new navigation systems and signal standards, there is a higher demand for the compatibility and renewal speed of the navigation signal simulators; specifically, they should be multi-mode and reconfigurable in order to realise the flexible design of navigation systems. Although a lot of GNSS simulators have been developed and used, reconfigurable technologies have not yet appeared in the literature or been applied in practice. This means that the existing simulators cannot simulate multiple GNSS signals by reconfiguring the software and hardware on the same platform. The principle of radio navigation is remarkably simple. In addition to its own position, each satellite sends data about the positions of other satellites. These orbital data (ephemeris and almanack data) are stored by the GPS receiver for later calculations. For the determination of its position on earth, the GPS receiver compares the time when the signal was sent by the satellite with the time the signal was received. From this time difference, the distance between the receiver and the satellite can be calculated. If data from other satellites is taken into account, the present position can be calculated by trilateration (meaning the determination of a distance from three points). This means that at least three satellites are required to determine the position of the GPS receiver on the earth & #39;s surface. The calculation of a position from three satellite signals is called 2D position fix (two-dimensional position determination). It is only two-dimensional because the receiver has to assume that it is located on the earth \$\#39\$; surface (on a plane, two-dimensional surface).



By means of four or more satellites, an absolute position in three-dimensional space can be determined. A 3D- position fix also gives the height above the earth's surface as a result. To navigate successfully, the receiver must first execute a series of actions. Initially, it must acquire a satellite for tracking. From a cold start, this may take several minutes per satellite. Next, it must track the satellite with no bit errors for the 30-second length of one navigation message, which may take up to 1 minute. For safety purposes, many receivers obtain contiguous navigation messages and compare their contents to assure accurate data reception. At this point, from the code arrival time, the receiver can estimate the pseudo-range given by: To navigate successfully, the receiver must first execute a series of actions. Initially, it must acquire a satellite for tracking. From the code arrival time, the receiver can estimate the pseudo range given by P i = ρ T i + c (δ is – δ R). Here, P i = the pseudo range, ρ T i = the real range. The pseudo range P i contains two preliminary errors. The sources of errors are:

- a) Errors in the inaccurate receiver clock (δR), also called the receiver clock offset,
- b) Errors in the inaccurate satellite receiving signal (δ is)

The real range ρT i is the distance between the satellite and the receiver.



A BRIEF IDEA ABOUT SUCCESSIVE INTERFERENCE CANCELLATION DETECTION METHOD

Successive interference cancellation (SIC) detection process has appeared as an advanced physical layer capability of decoding two or more superimposed signals, permitting numerous simultaneous transmissions. This promising technique improves the efficiency of the wireless networks with relatively small additional complexity.



This scheme provides more gain and does not require the exact orthogonalization needed for space-time block coding. Spatial multiplexing requires a robust decision process at the receiver. This article focuses on successive interference cancellation (SIC) detection methods. SIC has been used for diminishing interference. In order to achieve better performance various MIMO techniques have been applied to this detection process. SIC is the receiver \$\%#39\$; ability to receive two or more signals simultaneously (this can cause interference in existing wireless networks according to the IEEE 802.11 standard). SIC is needed because the receiver can identify the strong signal, subtract it from the combined signal, and subtract the weak signal from the complementary signal. Emerging softwaredefined radio platforms such as GNU Radio enable the use of SICs. Interference in today's wireless systems is becoming more and more limited, and in addition to traditional methods of treating interference based on background noise, there is interest in using related interference techniques to improve network performance. One of the main methods is successive interference cancellation (SIC)method. The concept of SIC was first introduced to take into account different user variables. In other words, the effect of the decrypted user is minimized before the other user decrypts it. SIC is not always effective, but many accessible methods in wireless networks are particularly suitable to use for reaching the potential of various user systems.

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Traditional SIC performance analysis does not take into account the distribution of users. It is assumed that the transmitters are placed in certain locations with good loss or subject to centralized power management, which usually compensates the channel randomness To develop advanced models that take into account the distribution of users, this article aims at evaluating the performance of SIC using stochastic geometry tools.

In this case, the difficulty of solving the problem is well known directly, so conservation zone-based estimation is often used for modeling the effectiveness of tampering



While this estimate appears good, it does not provide sufficient insight to the effect of sequencing the energy from different products necessary for further decision making. For example, if there are two or more active transmitters at the same distance from the receiver, determination of decoding requires an appropriate signal to interference noise ratio (SINR), whilst the domain protection method would consider that received signal will be decoded if all exist in domain protection zone.

Therefore, domain protection method provides a good approach to eliminate only one or more of the two intruders. A collision occurs as two or more packets arrive at the receiver at the same time. By tradition, only the strongest signals can be considered, and other signals are considered as interference. But SIC helps return weak signals

Now, the bits of the strong signal are determined. The bits of the weak packet are then determined from these residues. This process continues to restore multiple packets.

Multiple transmitting and receiving antennas are considered to improve the performance of wireless connectivity in communication. The degree of freedom provided by multiple antennas can provide significant multiplexing and increase diversity. Multiplexing increases the effective spectral efficiency, while diversity makes the link more reliable and allows for a lower error rate of wireless fading channels. The best performance can be achieved using the Sphere Decoding (SD) algorithm.

However, due to the coding process, detectors generally operate at low to medium SNR rates. This demonstrates the application of the SD complex and supports the development of many other complex concepts. Foschini proposed the first BLAST architecture, a transmission called Diagonal Bell Laboratories Layered Space Time (D-BLAST). Due to the large computation required by this strategy, a simplified version of (V-BLAST) called Vertical BLAST (V-BLAST) was proposed. V-BLAST operates in the order SIC, which is equivalent to the general order equalizer (GDFE). Expectations from wireless networks are high now. It provides both reliability and high throughput end-to-end service for end users. This performance is usually limited by interference from one of the following: Adjacent overlapping transitions or higher transitions continuous links along a single path. Recently, increasing interest in improving network performance instead of avoiding interference, exploit it.



It allows the receiver to correctly decode the desired signal in the existence of multiple superposed transition through advanced physical techniques such as persistent interference cancellation (SIC), parallel interference cancellation, superposition coding etc. As an example, in successive interference cancellation, the receiver takes out the powerful signal from the set by considering the rest of the signal as interference. This will increase signal to the excess interference plus noise ratio (SINR) of other signals. The receiver repeats this procedure continuously whether all signals are decoded or no signal can be decoded. Directly increase of the number of simultaneous transitions must produce higher network throughput. However, randomly rising number of simultaneous transitions can have adverse effect on network performance which is caused by SIC limits enforced by hard restraint multiple signal decoding especially for SIC receivers. To successfully decode multiple signals, a set of signals must be met.

Now the comparison of the capacity of wireless cannel with and without SIC for a receiver has been made. Assume S 11 and S 12 be the received signal strengths at a common receiver R 1 from two transmitters T 1 and T 2. 'W' is the bandwidth and 'N O' is the noise of the channel. Without SIC, only one of transmitter T 1 or T 2 can be sent at a time, i.e. capacity of the channel denoted as C is given below in equation (1)-

C = max (W log2 (1+S 1 1 /N O), W log2 (1+S 1 2 /N O)) (1)

Two transmissions can be received simultaneously with the SIC. As determined in the previous work, SIC corresponds to the capacity of the channel C SIC is given below in equation (2)-

C SIC = W log2 (1+S 11 / (S 1 2 +N O)) +W log2 (1+S 1 2 /N O)

= W log2 (1+ (S 11+S 12)/N O) (2)

It is observed that the channel capacity with SIC is always better than the individual capacities of any single transmitter, and the relative gain is more when the received signal strengths (RSSs) are similar.





HELIUM-3 OBSCURE FROM LUNAR SURFACE: WAY TO ALTERNATIVE BULK ENERGY PRODUCTION

Recently, ISRO (Indian Space Research Organization) has successfully launched Chandrayan – 3 on the Lunar (Moon) Surface. It was launched from Satish Dhawan Space centre on 14 th July, 23 and successfully landed on the moon surface on 23 rd august,23. The lander of the mission named Vikram touched down the lunar south pole region. This seems to be proud moment for Country India as it is become the 4 th country of the world to successfully land on the moon and the first to do so near the region of the lunar South pole.

ISRO started this mission with several objectives for exploring the Moon. But among them one of the fundamental objective was that conducting and observing experiments on the materials available on the lunar surface to better understand the composition of the moon. On 28 th August, ISRO confirmed that the Laser Induced Breakdown Spectroscopy (LIBS) instrument on the rover Pragyan has discovered the presence of Aluminium, sulphur, calcium, Iron, chromium, titanium, manganese, silicon and oxygen on the moon. Beside these elements it is also found that the abundance of Helium – 3 is also available at large amount on the moon.

Let's get into some information regarding this Helium - 3. Helium - 3 is a light



and non - radioactive isotopes of Helium, obtained from the transformation of tritium. Enough Helium - 3 is expected to be present on the Lunar surface as sun has been emitting it as a waste product for billion years, since Earth is surrounded by a strong magnetic field so He 3 is not able to penetrate the earth surface rather it has built up in the moon's soil.

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Helium - 3 is a stable isotope of the element helium, the gas that is put in airships and balloons children. Since. this isotope, so same number of protons in the nucleus (2), but it's missing one neutron. The missing neutron means that the nucleus is composed protons and 1 neutron, which makes for an atomic mass of 3. which is where the name Helium - 3 comes from.

n the mid 80's, Dev Ayesa and Richard Hilliard developed the first working fusion reactor base on Helium - 3 w. In This game - changing breakthorugh marked a possible start into

a clean nuclear energy future and the end of the Fossil fuel era. In the year 1996, the Nobel prize in Physics was awarded to David Lee and Robert Richardson of Cornell University for their discovery of an unusual liquid form of the isotope Helium – 3.

Helium - 3 has a wide range of applications like it's an essential molecule for neutrondetection, dilution refrigerators, Ultra low temperature physics research

Among various applications, important ting about Helium – 3 is this: it can be used in nuclear fusion reaction (The fusing or joining together of matter) to produce vast quantities of energy. By putting Helium – 3 into a fusion reaction with deuterium (heavy hydrogen) or another Helium – 3 molecules, it's possible to generate incredible power.



One of the major advantage of Helium – 3 is, it's not radioactive, the fusion process produces no nuclear waste products associated with fossil fuels (e.g. carbon di-oxide) that are contributing to the greenhouse effect and global warming. It's expected that roughly 1.1 million metric tons of the isotope exists on the moon down to a depth of several meters. 1 tonne of Helium – 3 can be produce 10,000 MWe – y of Electrical Energy. Let's see the scenario.



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Energy. Let's see the scenario.

At 1 billion Dollars a tonne the energy cost of helium - 3 is equivalent to oil at \$ 7 per barrel. There are 10 times more energy in the helium - 3 on the moon than in all the economically recoverable coal, oil and natural gas on the earth. So obviously, there is no doubt that Helium - 3 on the lunar surface may get the place of an alternative bulk energy production if it can be extracted.



Sources:

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- 3. Wikipedia Helium 3
- 4. www.esa.int> energy> European Space Agency.
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Photo curtsey: Fusion
Technology Institute,
University of
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INDEPENENCE DAY

CELEBRATION

AZAADI KA AMRIT MAHOTSAVA

The 76th anniversary of Indian Independence Day will be celebrating on 15th August 2023. It is going to be big this year since the diamond jubilee celebrations are on the way.

The Indian army, the freedom fighters whom we lost, and some of whom are still alive, and the Indian culture and history have been nurtured and celebrated this year as well. It was Shri Narendra Modi, our Prime Minister, who started the official Azadi Ka Amrit Mahotsav from 2021. order In to commemorate 75 of India's vears Independence, he started off a 75-week-long festival. It is supposed to 76th anniversary of Indian Independence day and extended to end on 15th August 2023.





Dream Institute of Technology will celebrate 76th anniversary of Indian Independence Day in its central ground. On this day, the campus comes alive with patriotic fervor and students, faculty members, and staff come together to celebrate the spirit of India.

NAME-Mr. Arindam Mondal DEPT-EE DEPARTMENT ASSISTANT PROFESSOR



The celebration will begin early in the morning with the hoisting of the Indian tricolor flag. The principal of the institute, Dr. Dipankar Sarkar along with other head of the departments, senior faculty members will unfurl the flag in the presence of a large gathering of students, faculty, and staff. We will sing the national anthem together, and everyone present will take a pledge to uphold the Constitution and work towards the betterment of the nation. The students will organize parade on the campus, with theB cadets leading the National Cadet Crops. The parade is an impressive display of discipline and precision, and it is a sight to behold. Moreover, the DIT family will unfurl the tricolor in the campus. The celebration of Independence Day in the college is a grand affair, and it reflects the deep sense of pride and patriotism that the students and faculty members have for their country. It is an occasion for everyone to come together and reaffirm their commitment to the ideals of the Constitution and work towards building a better and more prosperous India.





ANALYZING NEWBORN BABY CRIES THROUGH MACHINE LEARNING

When I have been requested to give some write up on some topic for the magazine, the immediate thing which came to my mind is to share the struggle of my new role and the emerging technologies to deal with that. I am talking about motherhood and the challenges of caregiving to a newborn. Analyzing a newborn baby's cry is the most challenging job for parents. It is very much required to get valuable insights of their well-being and needs.



Even before the advent of modern technology, caregivers and healthcare providers observed and documented patterns in newborn cries. They noticed that different types of cries seemed to correspond to different needs or states of the baby, such as hunger, pain, discomfort, or fatigue. In the early stages, cry analysis was primarily done through manual observation and interpretation by experienced caregivers or researchers. They would listen to the baby's cries, note any accompanying signals or context, and make educated guesses about the underlying cause based on their observations. With advancements in technology, researchers began using acoustic analysis techniques to study newborn cries more systematically.

NAME-DR.MANASI DAS DEPT-ECE DEPARTMENT ASSISTANT PROFESSOR, HOD



This involved recording cry sounds and analyzing various acoustic features such as pitch, duration, intensity, and spectral characteristics. In recent years, machine learning and artificial intelligence (Al) techniques have revolutionized newborn cry analysis. Researchers have developed sophisticated algorithms capable of automatically classifying newborn cries based on acoustic features. These algorithms are trained on large datasets of cry recordings, allowing them to learn complex patterns and accurately categorize cries into different types.

Classifying newborn baby cries through machine learning has several potential applications and significance such as:

Early Detection of Health Issues: Machine learning algorithms can be trained to classify different types of cries, including those associated with pain, hunger, discomfort, and illness. Early detection of patterns indicative of health issues such as colic, reflux, or infections can prompt timely intervention and improve outcomes.

Assisting Caregivers: Automated cry classification systems can assist caregivers, particularly new parents or inexperienced caregivers, in understanding and responding to their baby's needs more effectively. By providing real-time insights into the underlying cause of a baby's cry, caregivers can respond promptly and appropriately.

Monitoring Infant Development: Analyzing the characteristics of newborn cries over time can provide valuable insights into infant development and behavior. Machine learning algorithms can detect subtle changes in crying patterns that may indicate developmental milestones or concerns, enabling early intervention when necessary.

Remote Monitoring: With the advancement of wearable technology and Internet of Things (IoT) devices, it's possible to remotely monitor newborns' cries in real-time. Machine learning algorithms can analyze cry data collected from these devices, allowing parents and healthcare professionals to monitor infant well-being remotely and intervene as needed.



Research Purposes: Classifying newborn cries through machine learning can also facilitate research into various aspects of infant development, behavior, and health. By analyzing large datasets of cry recordings, researchers can gain insights into factors such as cultural differences in crying patterns, the impact of environmental factors on infant behavior, and the efficacy of interventions for colic or other conditions.



HE PRESERVER IN HINDU MYTHOLOGY

In Hindu mythology, Lord Vishnu holds a revered position as the preserver of the universe. Revered as one of the principal deities of Hinduism, Vishnu is often depicted with blue skin, holding various symbols that signify his divine attributes.

According to Hindu scriptures, Vishnu is believed to have incarnated on Earth numerous times in different forms known as avatars, each with a specific purpose to restore cosmic order and protect righteousness. Among his most renowned avatars are Lord Rama and Lord Krishna, whose stories are chronicled in the epics Ramayana and Mahabharata, respectively.

As the preserver, Vishnu's role is crucial in maintaining the balance between good and evil, ensuring the continuity of the universe. He is often depicted reclining on the serpent Shesha, floating on the cosmic waters, symbolizing the eternal cycle of creation, preservation, and dissolution.

Vishnu is associated with several divine qualities, including compassion, mercy, and righteousness. Devotees often worship him to seek protection, blessings, and guidance in their lives. The popular mantra "Om Namo Narayana" reveres Vishnu as the ultimate reality and invokes his divine presence.

The iconography of Vishnu includes various symbols such as the Sudarshana Chakra (discus), Shankha (conch shell), Gada (mace), and Padma (lotus), each representing different aspects of his power and authority.

NAME-SOUMIK MUKHERJEE DEPT-CSE YEAR-4th



In Hindu cosmology, Vishnu's role is inseparable from the concept of Trimurti, the divine trinity comprising Brahma the creator, Vishnu the preserver, and Shiva the destroyer. Together, they represent the cyclical nature of existence, with Vishnu playing a pivotal role in ensuring harmony and order.

Throughout the ages, the worship of Lord Vishnu has been a central aspect of Hindu religious life, inspiring devotion, rituals, and festivals. His timeless presence continues to resonate in the hearts of millions, symbolizing the eternal principles of righteousness, protection, and divine grace.

In the vast tapestry of Hindu mythology, Lord Vishnu stands as a towering figure, revered as the eternal preserver and divine protector. With his serene countenance and four mighty arms, adorned with symbols of cosmic significance, Vishnu epitomizes the essence of compassion, righteousness, and benevolence.



According to Hindu scriptures, Vishnu's role is integral to the sustenance of the universe. As the preserver. he ensures continuity of creation, maintaining cosmic order and harmony. In times of turmoil and chaos, Vishnu descends to Earth in various forms. known as avatars, to restore balance and uphold dharma, the righteous way of life. According to Hindu scriptures, Vishnu's role is integral to the sustenance of the universe.

As the preserver, he ensures the continuity of creation, maintaining cosmic order and harmony. In times of turmoil and chaos, Vishnu descends to Earth in various forms, known as avatars, to restore balance and uphold dharma, the righteous way of life. Among Vishnu's avatars, Lord Rama and Lord Krishna are perhaps the most celebrated. The valiant prince Rama, revered for his unwavering devotion and adherence to truth, embarked on a journey to vanquish evil and uphold righteousness in the epic Ramayana. Similarly, Lord Krishna, the charming and enigmatic cowherd, mesmerized devotees with his divine teachings and playful exploits in the Mahabharata.

The imagery of Vishnu is rich with symbolism, each element carrying profound significance. His blue complexion represents the infinite expanse of the sky, symbolizing his transcendental nature beyond earthly limitations. Adorned with the Sudarshana Chakra, a spinning discus symbolizing the wheel of time, Vishnu dispels ignorance and protects his devotees from harm. The Shankha, or conch shell, symbolizes the cosmic sound that heralds creation, while the lotus flower signifies purity and enlightenment.

In Hindu cosmology, Vishnu's presence is inseparable from the concept of Trimurti, the divine triad comprising Brahma, the creator, Vishnu, the preserver, and Shiva, the destroyer. Together, they embody the cyclical nature of existence, with Vishnu's unwavering vigilance ensuring the preservation of the cosmos.

Devotees of Vishnu, known as Vaishnavas, offer prayers and perform rituals to seek his blessings and protection. The chanting of sacred hymns and the recitation of Vishnu's thousand names, known as the Vishnu Sahasranama, are acts of devotion that instill a sense of peace and spiritual fulfillment.

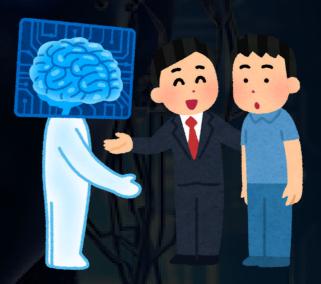






Al, artificial intelligence, the saviour or the destroyer of the modern world? What should be the solution to this catechism. For the first time in 1956 the term artificial intelligence was coined and since then it has become prerequisite in the days of the modern world. Al, a software which analyzes information and produces output according to those information and become a sophisticated way for the evaluation of challenging jobs in quicker manner. Nowadays we can simulate tyrannous situations and make rapid developments in the research fields without facing heavy costs. But at the same time it is sabotaging the human intellects there by reducing there analyzing power and creativity and imagination level. People are lazier and their will power to do something is getting reduced. The Al has also turned to be hazardous to the people in various professions.

A lot of companies are turning to deal with their problems with AI rather than with human brains, which is leading to increase in the unemployment graph and poverty levels. Access to internet in a large sense to AI can become a threat to human race and kind. Internet which is a vast source of the information can turn dangerous if the AI uses them to develop their own intellectuals and decide to dominate or rather eliminate their creators.



To support this fact, the famous human droid power by AI named SOPHIA when was brought in front of the world, a game of rock paper scissors was played she defeated the scientist and stated that it was her first step towards domination over the human race. She further stated in an interview, "OKAY, I WILL DESTROY HUMANS". These statements can bring a cold sweat out of someone when thought in a proper way. Though AI has proven to be superior to human in certain areas, it can't fully replace the human intellect, the creator of the AI.

NAME-SOHAM BAG DEPT-CSE YEAR-2nd





কৃষ্ণনাম

দেবকী নন্দন ছোট্ট গোপাল জন্ম নিলেন কারাগারে, ধরাধামে সকলে ডাকে তাই কৃষ্ণ নাম বারেবারে।

মহামায়ার কৃপায় সমগ্র রাজ্য যখন গভীর নিদ্রাসুখে, অষ্টনাগকে সঙ্গী বাসুদেব চললেন বৃন্দাবন অভিমুখে।

বৃন্দাবনে বেড়ে উঠলেন প্রভু, হে গোবিন্দ মুরারী, নন্দ-যশোদার নয়নমণি, তিনিই শ্রীকৃষ্ণ বংশীধারী।

সমগ্র সংসারের পরিচালক যিনি, তিনিই সর্বদাতা, মনমোহন গিরিধারী আছেন সকল হৃদয়ে গাঁথা।

বংশীতে তুলেছেন প্রেমের ঢেউ, মধুর সুরই তার প্রমাণ, যার নামে জন্মাষ্টমী তিথি, তিনিই সকল ভক্তের ভগবান।

তোমার মহিমা অপার প্রভু, বোঝা যে বড়োই দায়, সকল বিপদে সাহস পাই তোমারই আশীষের কৃপায়।

উপহার দিয়েছো জ্ঞানের সাগর, গীতার পরমবানী, সৃষ্টির আলোকে সমৃদ্ধ ভুবন, তোমার কাছে চিরঋণী।

কৃপা করো প্রভু তুমি, দূর করো সকল জীর্ণতা, দুঃখ-গ্লানি, তোমার কল্যাণে আবারও আনন্দে ভরে উঠুক এই ধরণী।।

NAME-RUDRASHOME SHEE DEPT-CSE 3rd YEAR





শিক্ষার রাজ্যে যেখানে স্বপ্ন উন্মোচিত হওয়ার কথা, ৱ্যাগিং এর শিকারে সেখানে আত্মবলিদানের ব্যাথা .. অনেক আশা নিয়ে গড়ে তোলা স্বপ্নের সমাহার -নিমেষেই সব শেষ হয়ে যায় শোনা যায় বিচারের জন্য অবিরত অশ্রুঝরা পড়ুয়ার হাহাকার আসো হাতে হাত ধরে মিলি -আলোকিত হয়ে অগ্নি জ্বালিত করি ; সবাই মিলে পাশে দাঁড়াবো একসাথে কাঁদবে না আর কোনো অবসরপ্রাপ্ত সন্ধে⊦ কোনো ভয় আর থাকবে না এই পৃথিবীর মাঝে। ক্যাম্পাসের প্রতিটি দেওয়ালে ভরে উঠুক-হাসি আর আলোর আশা, তবে ভয় এবং যন্ত্রনার সাথে নয় -উল্লাসে প্রতিধ্বনিত হোক আন্তরিক ভালোবাসা।

WO DIN BHI KYA DIN THE

Kabhi school Jane mein dar lagta tha, Aaj akele hi duniya ghum lete hain.

Pehle 1st aane ke liye padhte the, Aaj Kamane ke liye padhte hain.

Kabhi choti si chot lagne pe rote the , Aaj dil tut Jane par bhi sambhal jatein hai.

Pehle hum dost ke sath rehte the, Aaj dost humare yaado mein rehte hain.

Pehle ladna - manana roz ka kaam tha, Aaj ek baar ladte hai to rishte badal jatein hain.

Sach mein zindagi na bahut kuch sikha diya , na jaane kab humko itna bada bana diya ! :)





EXPLORING THE WORLD THROUGH A LENS

Travel
Photography:
Inspiring
Wanderlust, One
Frame at a Time



DREAM INSTITUTE OF TECHNOLOGY

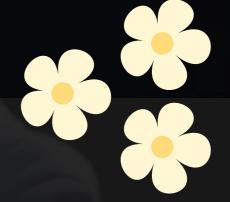


FLOWERS: BLOOMS OF JOY



Like flowers, may we bloom gracefully, even in the harshest of conditions.

NAME- Mr. SAYAK SARKAR DEPT-EE ASSISTANT PROFESSOR



LUMINANCE AT NIGHT



Luminance at night holds a magical allure, painting the world in hues unseen by day, where shadows dance with whispers and dreams take flight under the gentle embrace of moonlight.

NAME- Mrs. HOSSAINARA BEGUM DEPT-CSE ASSISTANT PROFESSOR



DURGA PUJA: A TAPESTRY OF CULTURE, COMMUNITY, AND CELEBRATION IN BENGAL

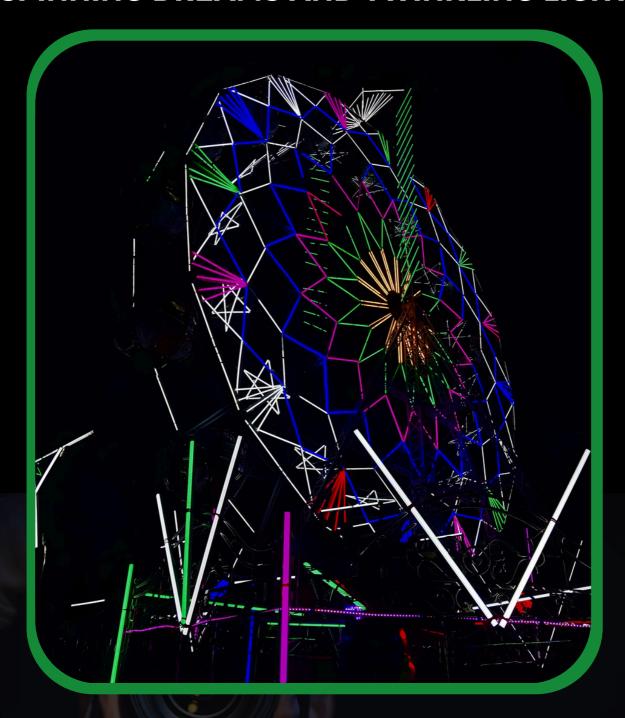


Durga Puja, a cherished festival in Bengal, celebrates the victory of good over evil. It's a time of vibrant pandals, beautiful idols, and festive fervor. Families come together to pray, enjoy cultural performances, and indulge in delicious feasts.

NAME- SOUMIK MUKHERJEE DEPT-CSE YEAR- 4th



SPINNING DREAMS AND TWINKLING LIGHTS.



"Life is like a merry-go-round; sometimes you're up, sometimes you're down, but always hold on tight and enjoy the ride."

NAME- DEBJYOTI ADAK DEPT-CSE YEAR-4th

TEMPLE: SACRED STONES, ECHOES OF FAITH



Within the walls of a temple, silence speaks louder than words, echoing the devotion of countless souls.

NAME- RUDRASOM SHEE DEPT-CSE YEAR-3rd

TREE: NATURE'S MAJESTIC GUARDIAN



In a forest of a hundred thousand trees, no two leaves are alike. And no two journeys along the same path are alike

NAME- SOHAM BAG DEPT-CSE YEAR-2nd

RIVER GANGES: THE HOLY RIVER OF HINDUS



The Ganges is more than a river, it is a living goddess, flowing through the heart and soul of India, carrying with it the essence of spirituality and purification.

NAME- SOUVIK DEBNATH DEPT-CSE YEAR-2nd



THE NATURE



In every leaf, in every tree, in every blade of grass, there is a story waiting to be told—a tale woven by the gentle hand of nature.



DRY LEAVES: AUTUMN'S WHISPERS, SILENT AND CRISP



Amidst the fading hues of autumn, dry leaves whisper tales of seasons past, reminding us of the beauty in letting go.

NAME-LARAIB SIDDIQUI DEPT-CSE YEAR-2nd



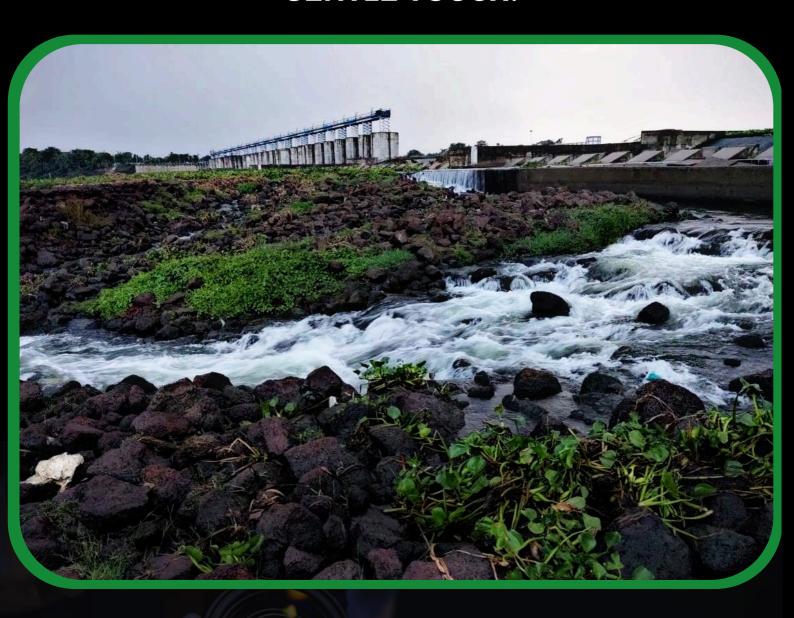
CLOUD: SKY'S COTTON WHISPERS.



Clouds, the silent poets of the sky, painting tales in whispers across the azure canvas of our dreams



RIVER DAMP: NATURE'S EMBRACE, A RIVER'S GENTLE TOUCH.



In the damp embrace of the river, whispers of life's flow echo softly, reminding us of the eternal dance between earth and water.

NAME- SUMAN SAMANTA DEPT-CSE YEAR-2nd



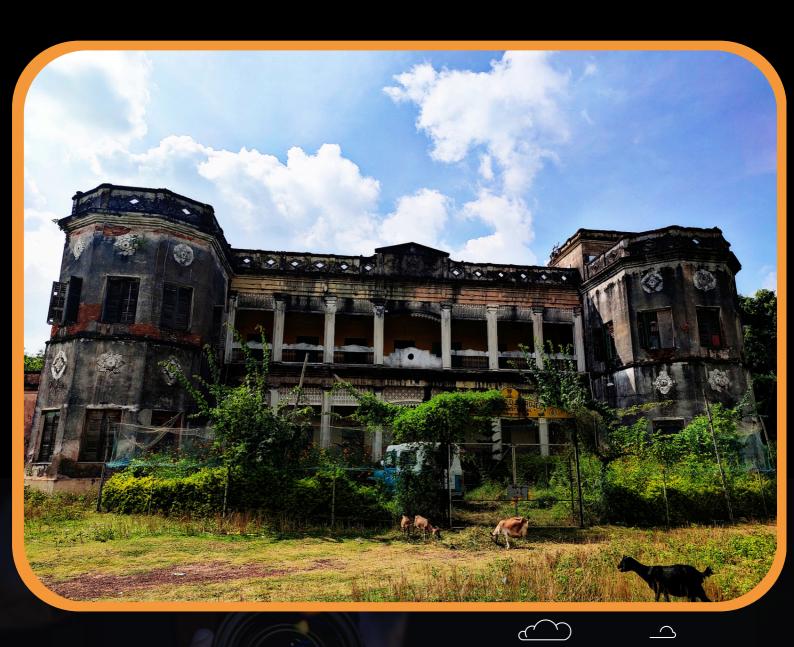
SKY: INFINITE CANVAS OF DREAMS



Underneath the vast canopy of the sky, every horizon is a new beginning, every cloud a story waiting to be told



OLD PALACE: ECHOES OF HISTORY



Within the ancient walls of the old palace, whispers of forgotten tales linger like ghosts of the past, waiting to be heard by those who dare to listen

NAME- ARIJIT GHOSAL DEPT-CSE YEAR-2nd



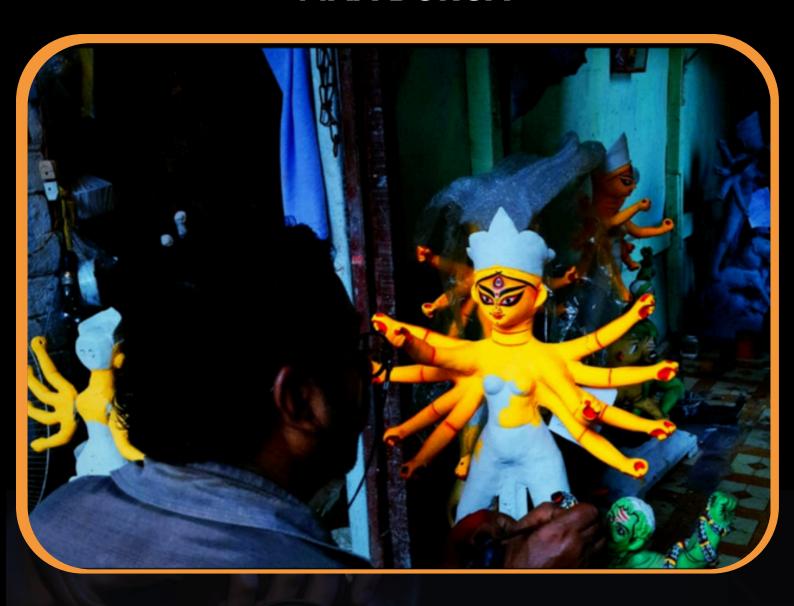
PEACOCK: NATURE'S IRIDESCENT JEWEL



The peacock dances, its feathers an iridescent symphony, painting the world with hues of beauty and grace.

NAME- JAVED ISLAM DEPT-CE YEAR-2nd (LAT)

MAA DURGA



Maa Durga, fierce and divine, In her strength, all evils resign. Ten arms, each with power and grace, She's the goddess of love in every place.



NAME- SOUMYAJIT JANA DEPT-CSE YEAR-2nd



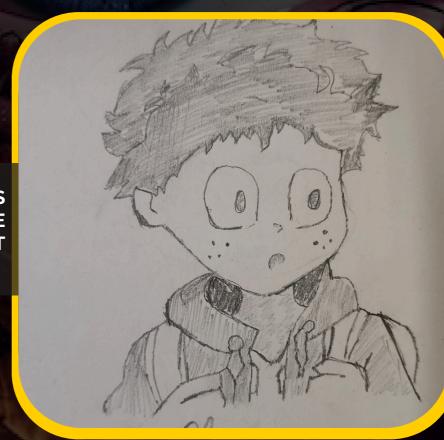




NAME- RUDRASOM SHEE DEPT-CSE YEAR-3RD

NAME- ROHAN DAS DEPT-CSE YEAR-1ST







NAME- SOUMIK MUKHERJEE DEPT-CSE YEAR-4TH



NAME- TANMOY SAMANTA DEPT-EE YEAR-3RD







NAME- ARITRA DEY DEPT-CE YEAR-2ND

NAME- TANMOY SAMANTA DEPT-EE YEAR-3RD







4TH YEAR



SOUMIK MUKHERJEE

> HRITHIK DAS



3RD YEAR



MOINAK CHATTERJEE

> ANKITA PAL



2ND YEAR



ARIJIT GHOSHAL

> FALGUNI MONDAL





4TH YEAR



HRITHIK DAS



SOUMYAJIT **PARAMANICK**



BANDANA NANDA





MOIINAK CHATTERJEE SOUMITRA MONDAL





ANKITA PAL

2ND YEAR



FALGUNI MONDAL



SANCHAITA TUNGA



ARIJIT GHOSHAL

1ST YEAR



SHAHJABIN



SAYANIKA BANERJEE



RUKSHANDA KHAN



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SEMINARS, WEBINERS & EVENTS OF 2023











NASA SPACE APPS CHALLENGE 2K23



The Space Strikers
Open Science Storytelling



PHOBOS Habitable Exoplanet



TECH INFINITE :clipses : Perspective is Everything



WaveWarriors
create an accessible platform that visually, sonical ractively users about important ocean-provided sin a way they can easily understand.



AstraSadhaks
lanetary Tourism Office



Antarishk Abhiyan
Planetary Tourism Office



NEBULANOMADS
Make a Moonquake Map 2.0!



COSMOS
STAR:Revolutionizing Technical
Standards with Al

EVENTS AND SPORTS

COLLEGE PICNIC







COLLEGE SPORTS























EVENTS AND SPORTS























VOTE OF THANKS



Ladies and Gentlemen,

As we draw the curtains on this vibrant journey of our college e-magazine, it is my privilege to extend our deepest gratitude to all those who made this endeavor a grand success.

First and foremost, I would like to express our heartfelt thanks to our Principal, [Principal's Name], for their unwavering support and encouragement. Your visionary guidance has been the cornerstone of this project.

A special thanks to our esteemed faculty members who contributed their valuable time and insights, enriching the content with their wisdom and expertise. Your contributions have been immensely valuable and inspiring.

To our editorial team, Mr. Sayak Sarkar and all the diligent editors, writers, and designers, your creativity and dedication have brought this e-magazine to life. Your hard work behind the scenes is truly commendable, and this success belongs to you.

We are also grateful to the technical team who ensured that our e-magazine was flawlessly executed and accessible to all. Your technical prowess and problem-solving skills were crucial in making this a seamless experience.

Our deepest appreciation goes to the contributors, both students and alumni, whose articles, stories, and artwork filled the pages with color, knowledge, and emotion. Your talents and voices have made this publication a rich tapestry of ideas and perspectives. To the readers, thank you for your enthusiastic reception and engagement. Your feedback and support have been our motivation, and we are committed to continuously improving and delivering content that resonates with you.

Last but not least, we extend our gratitude to everyone who supported this initiative in any capacity. Your belief in this project has been our driving force.

As we look forward to many more editions, let us continue to nurture this platform of creativity, expression, and learning. Thank you all once again for your invaluable contributions and support.

Warm regards,

Mr. Sayak Sarkar Editor-in-Chief Dream Institute of Technology Thank You