Inaugural Issue
15 August 2019

ITanium

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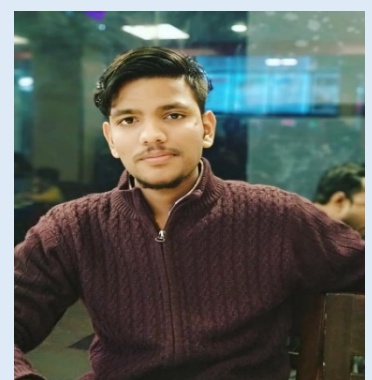**Kajal Khanna**
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3rd year IT

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3rd year IT

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DEPARTMENT OF INFORMATION TECHNOLOGY

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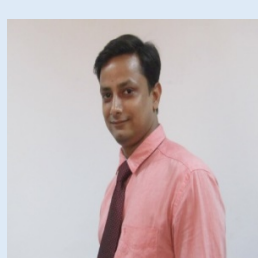
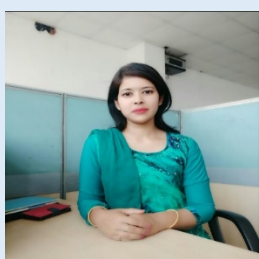**Mr. Updendra Mishra**   **Mr. Ravi Shankar Pal**   **Mr. Ravi Gupta**   **Mr. Veer Bhadra Pratap Singh**

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Mr. Amit Kumar Singh Sanger   **Mr. Ajay Kumar Sahu**   **Mr. Shardul Singh Chauhan**

IMS ENGINEERING COLLEGE

Vision

Our vision is to impart vibrant, innovative and global education and to make IMS theworldleader in terms of excellence of education , research and to serve the nation in the 21st century.

Mission

- To develop IMSEC as a centre of Excellence in Technical and Management education.
- To inculcate in its students the qualities of Leadership, Professionalism , Executive competence and corporate understanding.
- To imbibe and enhance Human Values, Ethics and Morals in our students.
- To transform students into Globally Competitive professionals.

Vision & Mission of IT Department

Vision

To impart futuristic technical education and establish a department of excellence by preparing students to apply their knowledge and varied skills as a competent technocrat to contribute towards solving complex societal problems and thus building a peaceful and prosperous nation.

Mission

M1: To impart quality engineering education so that they become enlightened individuals by getting high quality of technical education, research training, professionalism with strong ethical values.

M2: To educate students in such a way that they shape up their minds to ensure their productive careers in industry and academia.

M3: To help students excel in research and innovation that discovers new knowledge and enables new technologies and systems.

M4: To prepare students to become a perfect technocrat by inculcating creativity, team spirit , leadership & ethical competence through industry academia collaboration, continuous curricular , co-curricular and extra- curricular activities.

Department of Information Technology

Program Educational Objectives [PEO]

PEO1: Graduates of the program will be able to apply fundamental principles of engineering in problem solving and understand the role of computing in multiple disciplines.

PEO2: Graduates will learn to apply various computational techniques & tools for developing solutions & projects in real worlds.

PEO3: Be employed as Information Technology (IT) professionals beyond entrylevel positions or be making satisfactory progress in graduate programs.

PEO4: Demonstrate that they can function, communicate, collaborate, and continue to learn effectively as ethically and socially responsible IT professionals.

Program Specific Outcomes [PSO]

By the completion of program the students will have following program specific outcomes.

PSO1: Foundation of computer system: Ability to understand the principles and working of computer systems & information technology.

PSO2: Foundations of software development: possess professional skills and knowledge of software design process. Familiarity and practical competence with a broad range of programming language and open source platforms.

PSO3: Foundation of mathematical concepts: Ability to apply mathematical methodologies to solve computation task, model real world problem, using appropriate data structure and suitable algorithm.

PSO4: Applications of computing and research ability: Ability to use knowledge in various domains to identify research gaps and hence to provide solution to new ideas and innovations.

PROGRAM OUTCOMES (POs)

Engineering Graduates will be able to:

1. Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

2. 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.

3. 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.

4. 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.

5. 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.

6. 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.

7. 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.

8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

9. Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

10. Communication : Communicate effectively on copplex 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.

11. 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.

12. 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.

FROM DIRECTOR'S DESK

It is indeed a matter of great pleasure that Information Technology Department of IMS Engineering College is bringing out an e-magazine namely "ITanium". Every department works hard to establish its own identity and dignity. Many new things are experimented and innovated day-by-day which brings new advancements in the concerned field. The publication of this magazine will certainly provide an opportunity to its faculty and students to showcase their knowledge, talent and bring forth the good work and advancements achieved by them. The sharing of knowledge and new development in the field will also be very useful for other students and faculty as well. I believe this magazine will add another feather to the cap of IT department.

I wish IT department and "ITanium" publication team all the very best for their endeavours.

With best wishes,

Dr. SRABAN MUKHERJEE
Director
IMS Engineering College

EDITORIAL

Mid-way through editing and designing a pile of articles and with the thoughts of the zillion things that "JUST HAD TO BE DONE"; there was a lot to learn and implement. Putting a magazine together was no cake walk. Our editorial team members have spent sleepless nights to make this magazine stand out.

So here you have "ITanium" the long awaited magazine of IT Department .

The name of the magazine may seem difficult but it is" the family of 64- bit Intel microprocessors" ,this creative name was given by our hon'ble Dr. S.N. Rajan H.O.D (IT)

   This magazine manifests the creativity, dedication, perception, and literary skills of students and teachers . It is this willingness to share knowledge, concerns and special insights with fellow beings that has made this magazine possible.
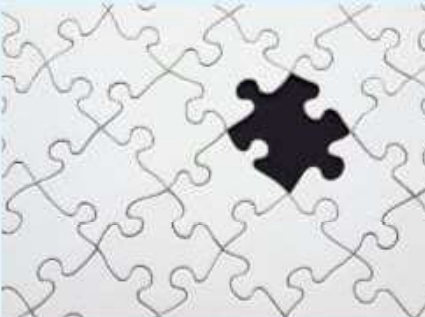
THANK YOU!!

CONTENTS

QUOTABLE QUOTES

"The will to win, the desire to succeed, the urge to reach your full potential... these are the keys that will unlock the door to personal excellence".

— CONFUCIUS

ARTICLES

Old Cellphones: The Key to Stopping Climate Change

Stuffed away in one of your drawers is a solution to our changing climate! Destruction of the world's rainforests is responsible for releasing more C02 into the atmosphere than all the world's transportation put together. But one brilliant thought leader has figured out how to use your old cellphones to put a stop to it!

Topher White and his organization, Rainforest Connection, have found ways to stop illegal logging by using old cellphones. Their innovation picks up on the sounds of chainsaws — and even analysis the changes in bird calls — then signals forest rangers in communities nearby to jump into action!

The concept of *Rainforest Connection* came to Topher White in 2011, while he was volunteering at a wildlife sanctuary in Indonesia. Topher realized that the rainforest is such a sound-rich place that rangers simply could not hear the illegal loggers taking down trees within minutes of the ranger stations.

The original technology relied on tuning the old cellphones to specifically pick up the sound of chainsaws but of course, that was after the damage had begun. Now, The Rainforest Connection has teamed up with SAP Cloud Analytics to listen to an array of forest sounds that might signal the illegal loggers are present *before* they even start.

As it turns out, we can now listen to the sounds that birds are making in the forest to predict that bad things are about to happen!

Why should we care?
Before we go into the humanity of the Rainforest Connection's concept on a *village level*, we should probably understand this on a global scale; how this affects every one of us. If you haven't heard this yet, it's important to know that the remaining rain forests are the lynchpin in saving our planet. Here's why:

1) Deforestation now accounts for 17% of all global carbon emissions.

2) It's getting worse. Average annual emissions in the last three years were 63 percent higher than in the preceding 14 years.

3) Even though those facts are well known and well accepted, governments, global organizations, and our mightiest corporate influencers are not fully aiming their immediate efforts at stopping deforestation.

Here's the most important takeaway fact from this article:

Forests are capable of providing 23 percent of the cost-effective climate mitigation needed before 2030

23%

Despite this potential, forests accounts for less than 3% of climate mitigation funding

3%

Article By : Praveen Bhatt IT2, 3rd Year

A super-thin slice of wood can be used to turn saltwater drinkable

Filtering the salt from seawater can take a lot of energy or specialised engineering. A thin membrane made of porous wood may be able to fix that.

In membrane distillation, salty water is pumped through a film, usually made of some sort of polymer with very narrow pores that filter out the salt and allow only water molecules through. Jason Ren at Princeton University in New Jersey and his colleagues developed a new kind of membrane made of natural wood instead of plastic.

"If you think of traditional water filtration, you need very high-pressure pumping to squeeze the water through, so it uses a lot of energy," says Ren. "This is more energy efficient and it doesn't use fossil-fuel based materials like many other membranes for water filtration."

His team's membrane is made of a thin piece of American basswood, which undergoes a chemical treatment to strip away extra fibres in the wood and to make its surface slippery to water molecules. One side of the membrane is heated so that when water flows over that side it is vaporised.

The water vapour then travels through the pores in the membrane toward its colder side and leaves the salt behind, condensing as fresh, cool water. This takes far less energy than simply boiling all of the saltwater because there's no need to maintain a high temperature for more than a thin layer of water at a time, Ren says.

This method filters about 20 kilograms of water per square metre of membrane per hour, which is not quite as quick as polymer membranes. The researchers think that may be because they did not have the equipment to make their membrane as thin: it is 500 micrometres thick, whereas the polymer membranes are generally closer to 130 micrometres thick.

Making the wood membranes thinner shouldn't be too hard with the right equipment, Ren says. "The functional part of the membrane is a micrometre thick," he says. "The rest is just a supporting structure to make it harder to break."

Article By : Km. Shraddha Katiyar IT2, 3rd Year

Discover the Man Who Sees Only with Sound! He's Redefining What's "Impossible"!

Daniel Kish is a blind man who sees the world with sound. He travels the globe by himself teaching others to see with senses that we all have but are unaware of! Through his work, he's teaching us all to redefine what is "impossible" for ourselves.

Not long ago, we thought the brain's circuits were wired once in a precise, fixed way and then slowly degraded through our lives. Not any more! We're learning more every day about the brain's astounding ability to constantly form new pathways and connections when there is damage or our capacities begin to fail somewhere in the brain. We can even change our brain at will if we decide to.

Daniel Kish has had a life that is a testament to that research, using his brain's potential to adapt to blindness: he "sees" much like bats and dolphins. His work points to the fact that similar capacities probably lie dormant in us all. We may be standing on the edge of a leap of human potential. His work is one of those stories that turns commonly held notions on their head.

In this article, we dive into the potential of yet another future we once thought impossible.

How did Daniel begin this remarkable journey?

Daniel Kish lost both his eyes to cancer by the time he was only 13 months old. Fortunately, his mother did not discourage the distinctive clicking sounds he started to make as a toddler. She quickly realized that he was deliberately directing them at that world around him. Turns out, those clicks were rewiring his brain so he could use something called "Flash Sonar" to create mental pictures of his surroundings.

Daniel tells me that the capacity to use this echolocation comes from deep in our evolutionary roots. The impulse to echolocate is so ingrained in us that most young blind children will automatically start echolocating by making signals or using sounds in the environment.

But parents and teachers usually see the echolocation behaviours such as clicking, clapping, or foot-stomping as a nuisance and quickly discourage it rather than redirecting or refining the behaviour to be less obtrusive and more effective.

What they don't realize is that by doing so, they have cut the child off from being able to use a powerful, natural adaptation that most blind people can learn to use to become as independent as Daniel.

That quote is a wonderful reminder of the journey we are all on both as a species and as individuals. When we let the young lead, they will often show us the way to the future.

You've got to see this all for yourself to understand the way this kicks down the door on our limitations. Let's dive into this remarkable path of possibility with a video that leaves us wondering what else is possible!

Article By : Prince Chauhan IT2,3rd Year

Human Action Recognition in Videos

Human Action: "It is a sequence of human body movements, and may involve several body parts concurrently".

Examples of Human Action

What is Human Action Recognition in Video?

➤ Given an input video, perform some appropriate processing, and output the "action label".

➤ Human Action Recognition in video (HAR) is mainly concerned about the abnormal state behaviour recognition.

Real life Applications of HAR:

1. Daily activity recognition

2. Abnormal Human Action Recognition (AbHAR)

3. Interaction Recognition

4. Security and Surveillance

5. Sports analysis and Entertainment

6. Human-computer interaction

7. Event Analysis etc.

Components of HAR:

➤ A typical action recognition generally contains two major components:

a) **Action Representation**   b)**Action Classification**

➤ Action Representation component basically converts an action video into a <u>feature vector</u> or a series of vectors.

➤ Action Classification component infers an <u>action label</u> from the vector.

Bag-of-Words (BoW) Approach:

➤ In computer vision, the Bag-of-Words model (BoW model) can be applied to <u>image classification</u>, by treating <u>image features</u> as words.

➤ A bag of visual words is a vector of occurrence counts of a vocabulary of the local image features.

➤ To represent an image using the BoW model, an image can be treated as a document.

➤ BoW includes following three steps for Action Representation:

1) Feature detection/extraction

2) Feature representation/description

3) Codebook generation

➤ Action Classification is done by a classifier such as Support Vector Machine (SVM).

Flow Chart of Bag-of -Words Method:

An action is represented by a histogram of visual words, and can be classified by a classifier such as Support Vector Machine (SVM).
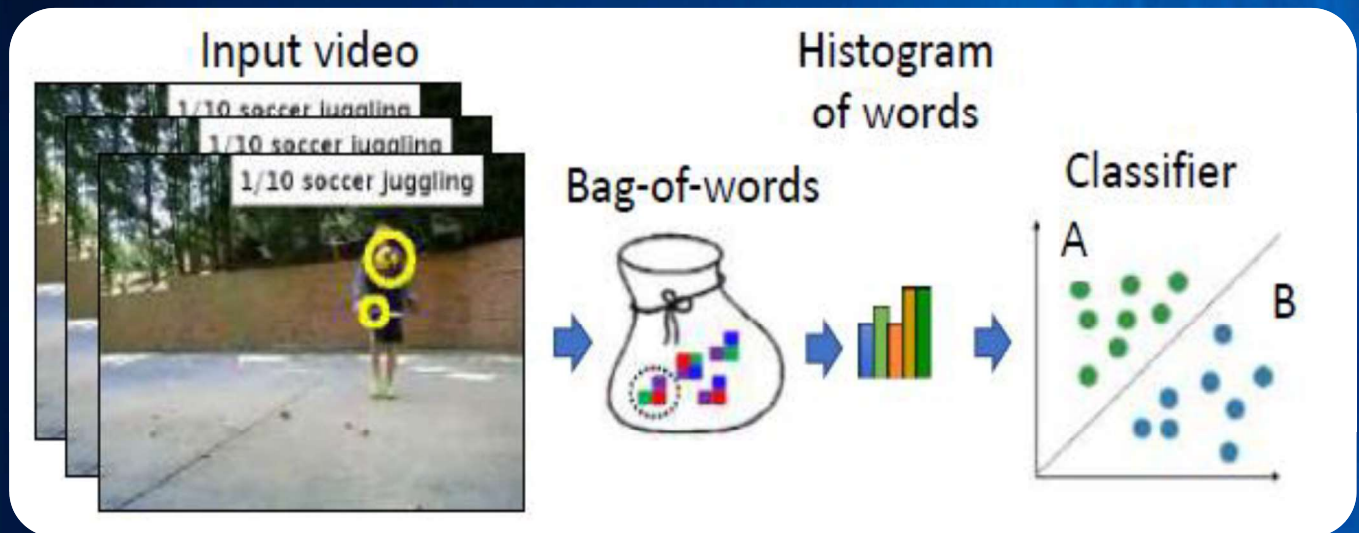
Local Features detected on input video are shown in yellow circles

Challenges in Human Action Recognition in Videos:

1- Object/human poses variation

2- Background clutter

3- Partial occlusion

4- Illumination variation

5- Changes in Scale, Viewpoint, Lighting and Appearance

Conclusion and Future Scope:

✓ Abnormal Human Action Recognition (AbHAR) through visual data and sensor data has appealed, tremendous attention in the computer vision community.

- ✓ The accuracy and efficiency of Abnormal HAR systems depend upon the Features which are representing the actions.

- ✓ Human Action Recognition in videos is very important in day-to-day routine of common users.

- ✓ HAR is very useful to provide Human Security and Surveillance nowadays.

- ✓ Many algorithm, methods and datasets are developed for this purpose since last few years.

In future:

- ➢ We can design some new, good and discriminative Features for action representation.

- ➢ We can design better Classifiers for action classification.

- ➢ We can develop comprehensive datasets that reflect the variability of real-world recognition scenarios.

- ➢ We can develop the system having low cost and affordable for common users.

- ➢ We can improve accuracy and efficiency of HAR systems.

Article By : Mr. Updesh Kumar Jaiswal

Assistant Professor, IT Department

Mitigating AI Threats

Artificial Intelligence (AI) has gravitated industries across various sectors where each one is trying to leverage it to their advantage. The term AI always conjures images of a science-fiction prototype.
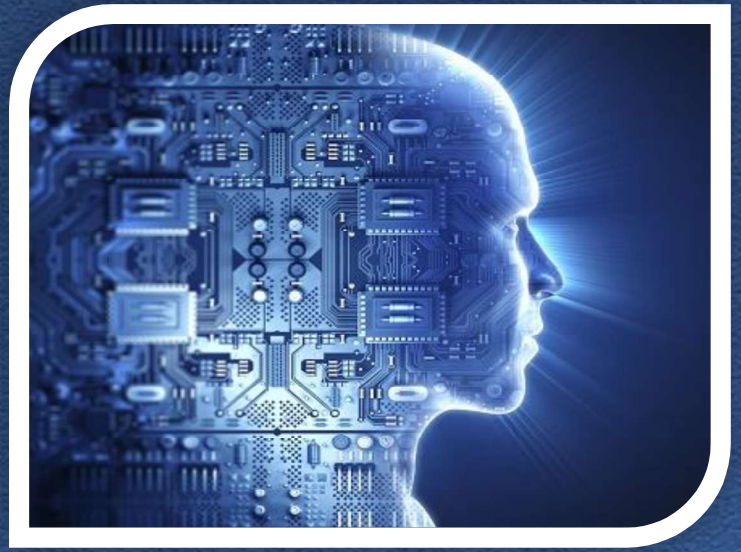
Thanks to the influence of popular culture, artificial intelligence is always interpreted in the popular culture as intelligent machines and robots, autonomous, independent and able to take their own decisions, learning about their own environment on their own. Normally AI has clout associated with automation, robotics, intelligent decision making, etc. However each coin has two sides and so does AI.

However, it does not always have to be so grand. Artificial intelligence (AI) can often be simpler – a computer performing analytical functions but at superhuman speeds. It is similar to machine learning where computers and systems work with huge amounts of data, analysing it, running algorithms to find patterns and understand the data. Artificial intelligence goes one step higher – it is a system which does not just provide results from huge amounts of data but also has the capacity to take decisions on it.

However, rapid advances in artificial intelligence are raising risks that malicious users will soon exploit the technology to mount automated hacking attacks, cause driverless car crashes or turn commercial drones into targeted weapons, a new report warns.

The researchers said the malicious use of AI poses imminent threats to digital, physical and political security by allowing for large-scale, finely targeted, highly efficient attacks.

There has been allegations across the world, and especially in US, of election rigging by dissuading the mood of electors using AI-based advertising on social media platforms. The Facebook-Cambridge Analytical scandal which was uncovered in 2018 is a testament to the connivance of tech companies to breach the privacy of gullible users and use the power of AI for ulterior and sometimes illegal motives.

Thus we must cautiously embrace AI by making our country AI literate. To keep up with the pace of AI innovations and research, rapid modernisation, project based learning, and practical research is the need of the hour. A strong workforce focussed on AI research will bring India at the centre stage of the global AI community.

The department of IT and CSE of IMS Engineering College is focused on AI & Machine Learning based research and innovation where we aim to make India an AI superpower.

Article By : Dr. S N Rajan HOD-IT

How Machine Learning Is Changing the World

The term "machine learning" might not mean much to you. You might imagine a computer playing chess, calculating the multitude of moves and the possible countermoves. But, when you hear the term "artificial intelligence" or "AI," however, it's more likely you have visions of Skynet and the rise of our inevitable robot overlords. But, the truth of artificial intelligence and particularly machine learning is far less sinister, and it's actually not something of the far-off future. It's here today, and it's shaping and simplifying the way we live, work, travel and communicate. In fact, it's shaping our everyday lives and the decisions we make. In part, it is even how you came across this article.

What is machine learning?

Machine learning is one element of AI, whereby a computer is programmed with the ability to self-teach and improve its performance of a specific task. In essence, machine learning is all about analyzing big data the automatic extraction of information and using it to make predictions, decipher whether the prediction was correct, and if incorrect, learning from that to make a more correct prediction in the future. Google, Amazon, Netflix and other monolithic online platforms use it to deliver semantic results based on algorithms that analyze a user's search, purchase and viewing history to predict what is it they're looking for or more likely to want. The staggering amount of data gathered every day, and it would be impossible to analyze without the help of machine learning. But, the implications of machine learning go far beyond satiating our seemingly unquenchable thirst for knowledge and cat GIFs. Machine learning is being increasingly integrated into all industries and every facet of our workday and leisure time through the automation of manual labor, improving our connectivity and the way we live and shaping the future of AI .

How machine learning affects work life

The implications of machine learning on industries, professions and the workforce are considered miraculous by some and catastrophic by others.
Let's do a quick rundown of a very few by industry ...

Education

Teachers are required to wear many hats: educator, diplomat, analyst, counselor, mentor, ally, referee and plenty more. There's no computer or robot that can fulfill those functions yet, but through machine learning, some of those tasks can be automated. Computers can be programmed to determine individual studyplans, specific to each student's needs. Algorithms can analyze test results, drastically reducing the time teachers spend in their leisure time on grading. A student's attendance and academic history can help determine gaps in knowledge and learning disabilities. These applications won't necessarily translate to a teacher-less classroom , but will facilitate the teaching and learning environments to enhance the outcomes and ease the burden on both teacher and student.

Health

Machine learning is taking a bigger part in our health and well-being on a daily basis, and it is already being used for faster patient diagnosis. Even the prevention of illness in the first place have been aided by predicting the potential health problems one may be susceptible to, based on age, socio-economic status, genetic history, etc. The use of programs to analyze and cross-reference symptoms against databases containing millions of other cases and illnesses has led to faster diagnoses of illness and disease, saving lives through quicker treatment and decreasing the time a patient spends in the health system. Hospitals are currently using AI algorithms to more accurately detect tumors in radiology scans and analyze different moles for skin cancer, and machine learning is being adapted to accelerate research toward a cure for cancer.

Transport

The self-control of our transport industries is steadily becoming more reliant on machine learning and AI, and it is expected that within the next decade, the majority of our shipping and rail networks will be controlled autonomously. China is currently testing driverless public buses. Meanwhile, Rolls Royce and Google have teamed up to design and launch the world's first self-driving ship by 2020. The vessel will use Google's Cloud Machine Learning Engine to track and identify objects at sea. While Google's self-driving car replaces one driver, the autonomous ship's AI will need to carry out the tasks usually requiring a crew of 20.

Article By:-Ayush Singh IT-1 3rdyear

LIT DROPS

POETRY

Har but ki mauj ka paimana bnata hai
Wo barsat bnata hai ye mai khana
bnata hai
Tum usi se husn ki numaish krti ho
Jo chand sitaro ka karkhana bnata hai
Saugat tum hosh walo ko hunar ka do
Itara k gurur me jhuka ke nazar tum
kya shikar kroge
Hmara malik wahi hai jo deewana
bnata hai
Wo dekho baheliya sher ko nishana
bnata hai

By : Dheeraj Mishra IT-1 3rd Year

IT ISN'T FAIR TO EXPECT PERFECTION

We live in a world of imperfection, and certainly there are no perfect people.
And one of the surest ways to break up a home , to break up a marriage, to break up a friendship,
a business, or any relationship in life, is to overemphasize faultfinding.

People in love overlook faults,In disillusionment they overemphasize faults.
"Faults are thick - where love is thin". It isn't fair to expect perfection in other people...
when we can't give it ourselves.

It is fair,however , to expect improvement , to expect repentance . But in the meantime, one of the lessons of life is learning what to overlook - and when.

By : Km. Akanksha Singh IT-1 3rd Year

ENGINEER'S LOVE

I was alone and all was dark
Beneath me and above
My life was full of volts and amps
But not the spark of love

But now that you are here with me
My heart is overjoyed
You've turned the square of my heart
Into a sinusoid

You load things from my memory
Onto my system bus
My life was once assembly code
It's now like C++

I love the way you solder things
My circuits you can fix
The voltage 'cross your diode is
much more than just point six

With your op-amps and resistors
You have built my integrator
I cannot survive without you
You're my function generator

You've changed my world, increased
my gain
And made my math discreet
So now I'll end my poem here
Control, Alt, and Delete

By : Akash Khushwaha, IT-1, 3rd Year

THE BLOOMING YOUTH

Most people actually say that this is the "depressed" generation, too young to be "adult" , too smart to feel
"inferior" , and too haste to getting what they want.

Being in the 'depressed' generation is like wanting to soar high but your wings aren't fully complete
yet , it's like wanting to know and do everything all at once but not having the resources to live life to
the "full" like what others always say , and it's like wanting to achieve all your dreams but not hvaing
the confidence that you actually can, because this generation will also give you a sea of competitors.

But one thing is for sure –
2018 taught us that this is not the end of the road yet - that there is hope for a better future.
2018 made me feel that this was just your training ground , the next years will be your battlefield and not
to mention, the moment wherein YOU WILL WIN ALL YOUR WARS.

2018 was a year of constant what-ifs and questions because, in the next years you will already be firm in
your decisions

2018 was utterly about yourself - knowing your deepest scars, knowing how people can make you happy ,
knowing how you can survive each day and surpass each day's challenges.

We can say that 2018 taught us to be completely honest with ourselves - to what we're feeling , to what we
want to say, and to what we want to do.

By : Kajal Khanna IT-1 3rd Year

THE FUTURE

Future can be a scary word. Just hearing it sends shivers down my spine. Thinking about the future puts so many thoughts in my head. Not only my own future but what the future of the world consists of. There are so many things that go into the future that it is unbelievable. Here are a few ideas that come to my mind when I think about the future.

The first thing many people think of when they hear the word future is technology and its advances. Scientists predict robots and electric cars that drive for us. They also think about advances in health technology and how it can save people's lives. Technology is growing more and more everyday around us and we might not even be aware of it. It is kind of freaky to think about robots coming to life on Earth I will admit it. I think these advances in technology, despite how weird they are will end up being for the better good in the end.

Another thought I get when thinking about the future is my own. I think about my job, what i'm going to do after I graduate, who I'm going to marry, etc. It all is a lot to think about but it's those type of things that, it is one of the things I hate about today's society. They pressure you into knowing exactly what you're going to with your life when not everyone knows. If you do know, congratulations! I have come to find out that trusting God and let him guide your life, it lets out a lot of the stresses of your person future (that is if you are religious). It is good to have a dream and a plan for your life but know that you will never stick to that plan because life has many twists and turns. It will all work out in the end.

By : Nayan Dhawan, IT-1, 2nd Year

NEWSWORTHY

SCIENCE & TECHNOLOGY

1. Chandrayaan-2 in orbit, now focus on Sep 7 moon landing

The spacecraft will spend the first 23 days in Earth orbit during which it will burn its internal thrusters six times raising the height of its orbit each time. Around August 14, the   transit to the lunar orbit will begin and end on September 1 when Chandrayaan-2 will settle into a 100-km orbit above the Moon.

"This is the beginning of a historical journey of India to the Moon," ISRO's chairman K Sivan announced after the satellite sent out its first signals from GTO.

After this, ISRO's indigenously-built rover Pragyan will survey the Moon's surface and conduct experiments on chemistry, mineralogy and exosphere, especially collecting more evidence for   the existence of water, for 14 lunar days or one Earth day.

2. 3 D printing the human heart

A team of researchers   from   Carnegie   Mellon   University has published a paper in Science that details a new technique allowing anyone to 3D bioprint tissue scaffolds out of collagen, the major structural protein in the human body. This first-of-its-kind method brings the field of tissue engineering one step closer to being able to 3D print a full-sized, adult human heart.The technique, known as   Freeform Reversible Embedding of Suspended Hydrogels (FRESH) , has allowed   the researchers to overcome many challenges associated with   existing 3D bioprinting methods, and to achieve   unprecedented   resolution and fidelity using soft and living materials.

"

 What we've shown is that   we can print pieces of the heart out of cells and collagen into parts that truly function, like a heart valve or a small beating ventricle ," says Adam Feinberg, a professor of iomedical engineering (BME) and   materials science & engg. at Carnegie Mellon, whose lab performed this work.

3. No coding required: Companies make it easier than even for scientists to use Artificial Intelligence

AI used to be the specialized domain of data scientists and computer programmers. But companies such as Wolfram Research, which makes Mathematica, are trying to democratize the field, so scientists without AI skills can harness the technology for recognizing patterns in big data. In some cases, they don't need to code at all. Insights are just a drag-and-drop away. A machine learning tool called Northstar lets user play with data virtually. It includes a module that anticipates and counteracts typical rookie mistakes, such as assuming any pattern an algorithm finds is statistically significant.
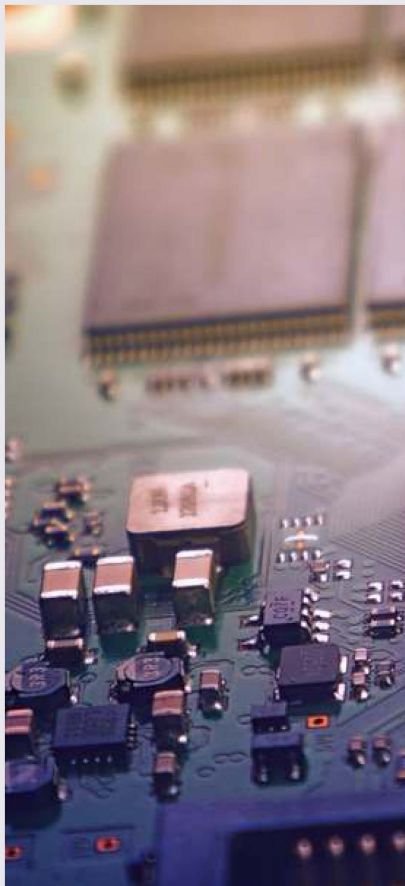
SPORTS

1. Irfan Pathan and 100 other cricketers asked to leave Jammu & Kashmir at the earliest

India all-rounder Irfan Pathan and other support staffs of the Jammu and Kashmir's cricket team were requested to leave the state at the earliest after the Indian Government's security advisory following unrest in the valley.Pat--han, who is associated with Jammu and Kashmir team as player cum men--tor along with coach Milap Mewada and trainer Sudarshan VP are expected to leave the state on Sunday.

2. Thailand Open: Satwiksairaj Rankireddy-Chirag Shetty become 1st Indian Pair to win BWF Super 500 Tournament

Satwiksairaj Rankireddy and Chirag Shetty on Sunday became the 1st Indian pair to win BWF Super 500 badminton tournament with a hard-fought victory over Li Jun Hui and Liu Yu Chen of China in the summit clash of Thailand Open in Bangkok.

The unseeded Indian duo prevailed 21-19 18-21 21-19 over the third-seeded Chinese pair after battling hard for an hour and two minutes. It was the first final of the 2019 season of Rankireddy and Shetty, the men's doubles silver medalist at 2018 Commonwealth Games.

3. Lionel Messi banned for three months after CONMEBOL 'Corruption' Outburst

Argentina star Lionel Messi was banned from playing for his national team for three months and fined
$50,000 on Friday by CONMEBOL after he heavily criticized the South American football governing body during the Copa America

POLITICS

1. Centre Effectively Revokes Article 370, Set to Bifurcate J&K

1. Centre Effectively Revokes Article 370, Set to Bifurcate J&K. The Centre on Monday, 5 August, moved to revoke Article 370 – which confers special status to Jammu & Kashmir – through a Presidential Order .Besides, the Rajya Sabha, on Monday, passed the Jammu & Kashmir Reorganisation Bill , 2019 which proposes to bifurcate the state into two union territories – Jammu & Kashmir as one and Ladakh as the other . Soon after the proceedings in Rajya Sabha , several state leaders including former Chief ministers Mehbooba Mufti and Omar Abdullah were arrested,news agency PTI reported, quoting officials.

2. PM Narendra Modi's mantra to newly-elected MPs

Prime Minister Narendra Modi on Saturday gave lessons to the newly elected BJP MPs on how to become a successful public representative. According to those who attended a two-day 'Abhyas Varga' (training sesson) being held in parliament premises, he asked the MPs to remain connected with their well-wishers who had worked for their success in their respective constituencies.

3. IIT graduates cannot be selling detergents: Pranab Mukherjee

NEW DELHI: Former President Pranab Mukherjee has said that the country needs its graduates from premier institutions such as IITs to serve larger purposes rather than advance the sales of detergents at large multinationals. .

RECENTLY HELD IN IT DEPARTMENT

- **Department of Information Technology, in association with RedHat Academy, organized six weeks summer internship program on RedHat Linux, Python & Machine Learning(ML). This program was held in June-July 2019. In this program total 28 students from different colleges have participated.**

- **Department of Information Technology organized summer Internship program on Competitive Learning (C & Java) for 1st year students.Total 41 students participated in this program.**

BRAINSTORMERS

QUESTIONS

1. India has launched the initiative 'innovative for clean Air' (IFCA) in partnership with which country?
   A) Russia
   B) United kingdom
   C) Japan
   D) Australia

2. Which Indian cricketer has banned by BCCI?
   A) MOHAMMAD SHAMI
   B) PRITHVI SHAW
   C) HARDIK PANDYA
   D) JASPRIT BUMRAH

3. Who has recently acquired the American software company Red Hat?
   A) Lenovo
   B) IBM
   C) Dell
   D) Samsung

4. Who is the newly appointed managing director and chief finance officer of the world bank?
   A) ANSHULA KANT
   B) SUNILA MEHTA
   C) USHA ANANTHASUBRAMANIAN
   D) AKRITI JADEJA

5. India and Russia have signed to deal to acquire R-27 Air-to-Air missile. What is the deal budget?
   A) Rs 2000 CRORE
   B) Rs 2500 CRORE
   C) Rs 1000 CRORE
   D) Rs 1500 CRORE

6. Who invented periodic table?

7. Which city police will issue red cards to men found harassing women in public?
    A) DELHI
    B) MUMBAI
    C) NOIDA
    D) BENGALURU

8. In internet and web server terminology, what does CDN stand for?

9. In which decade was the Hubble space telescope launched?

10. Disney partnered with this technology firm to host a light show with 300 drones in Florida. The shooting star drones, created by this company, are controlled by a single operator and can create over four billion colour combinations in the sky. Identify the company.

11. In which sentence all the alphabets come?

12. First Indian woman who went to space?

13. First Indian woman Everest winner?

14. First Indian woman miss world?

15. What is the name of the mountain range that separates Europe from Asia?

16. How many times in a day, are the hands of a clock in straight line but opposite direction?
    A) 24
    B) 22
    C) 18
    D) 21

17. There is a clock which shows false timing i.e. shows 20 minutes less for each 1 hour. If the clock shows 12 noon now how many minutes will be lost when it shows 2 pm?
    A) 36
    B) 48
    C) 35
    D) 60

18. How many times in a day, the hand of a clock are straight?
    A) 22
    B) 24
    C) 44
    D) 48

19. You have nine marbles. One is slightly heavier than the others, but the difference is imperceptible to you. You have a balance that can detect the difference. In how many attempt do you determine which one is the heavy one?
    A) 2
    B) 3
    C) 4
    D) 1

20. You're standing in a hallway with three lights switches on the wall, each of which turns on a different lamp inside a closed room. You can't see inside the room, and you can't open the door except to enter the room. You can enter the room only when you do, all the lamps must be turned off. In how many attempts you can tell which switch turns on which lamp?
    A) 2
    B) 1
    C) 3
    D) 0

ANSWERS

1. (B)
2. (B)
3. (B)
4. (A)
5. (D)
6. Dmitri Mendeleev
7. (C)
8. Content delivery network
9. 1990
10. Intel
11. The quick brown fox jumps over a lazy dog.
12. KALPANA CHAWLA
13. BACHENDARI PAL
14. MISS RITA FARIYA
15. Ural
16. (B)
17. (D)
18. (C)
19. (A)
20. (B)

Upcoming
Events

1. Three Day Workshop: Product Design and Innovation 2019, IIT Bombay, Mumbai, Maharashtra

Event Details:
Essentials of Innovative Product Design and Development. The course will inform the participants about the overall aspects of Industrial Design including Need Finding, Design Methodology, Innovation and Problem Solving, Product Graphics, Interaction Design, Product Ergonomics, Product Aesthetics, etc.
Organiser : IIT Bombay
Event Dates : 22-24th August 2019

2. Codefest 2019, IIT BHU, Coding Festival, Varanasi, Uttar Pradesh

Event Details:
CodeFest is the annual coding festival of the Department of Com-puter Science and Engineering, IIT (BHU) Varanasi.
Our motto: Code For Glory
Organiser : IIT BHU
Event Dates : 23-25th August 2019

3. TECHEXPO 2019, IIT Guwahati, Tech Expo, Guwahati, Assam

EventDetails:
Techniche(The annual Techno-Management festival of IIT Guwahati) now in its 21th edition has taken up the initiative of organising TechExpo, with the cardinal aim of bringing to light the technolog-ical advancements made by the youth of this coun-try and provide an opportunity to showcase their innovations on a larger platform. The prime motive is to inspire the young minds in India to engage in creating new ideas and to promote the idea of in-novation very much on the lines of Make In India and Startup India.
Organiser:IITGuwahati
Event Dates : 29th August - 1st September 2019

4. Spardha 2019, IIT BHU, Sports Festival, Varanasi, Uttar Pradesh

EventDetails:
Spardha is the annual sports festival of IIT (BHU), Varanasi. In its glorious history of over 30 years, Spardha has grown to become the largest and one of the most awaited sports festival of north-ern India where athletic competition is drawn from throughout the country. Each year, over a thousand participants compete in an array of sports like hockey, basketball, cricket, boxing, tennis and many more, creating a stunning spectacle of exceptional fervidness in athletic talent.
Organiser:IITBHU
Event Dates : 18-20th October 2019

5. Rann-Neeti 2019, IIT Mandi, Sports Festival, Mandi, Himachal Pradesh

Event Details:
RANN-NEETI , the biggest sports fest of the Himalayas , was hosted by IIT Mandi, to showcase their talent in the wide field of sports. In addition to being a student fest where youths from different colleges of The North assemble in the sports arena, Rann-Neeti has contributed to their growth as well.
Organiser : IIT Mandi
Event Dates : 6-8th September 2019

6. Fluxus IIT Indore 2019, IIT Indore, Techno Cultural Fest, Indore, Madhya Pradesh

Event Details:
Fluxus , IIT Indore's annual techno - cultural fest has grown into Central India's biggest and most anticipated event. With shows from renowned artists like Farhan Akhtar, Sunidhi Chauhan, Shirley Setia and Amit Trivedi to up-and-coming performers like The Local Train, Fluxus has witnessed exhilarating performances from both Indian and international artists alike.
With preparations to exceed the 25,000 footfall of Fluxus '19 ongoing , expectations are that Fluxus '20 will be its biggest edition yet. I am also attaching the brochure of Fluxus'20 and I hope that you would provide us an email where we can send our proposal and pro-ceed further.
Organiser : IIT Indore
Event Dates : 30th January - 1st February 2020

STUDENTS'
OPINION

POSITIVE THINKING

Positive thinking is an optimistic state of mind, which sees the bright side of life. Positive person anticipates happiness,health and success.

A person with positive attitude is willing to experiment, take action and do things.He or She does not accept things as they are and expend efforts tofollow goals.Your actions are a result of your attitude which in turn creates a reaction.Therefore,We must surround ourselves with positive people who would bring positivity into our lives!!.

By :-

Shubhangi Sharma,
IT2, B.Tech 4th year.

SPORTSMANSHIP

Sportsmanship not only implies taking part in sports and playing the game in conformity with the rules prescribed, but also playing the game of the life in accordance with the spirit imbibed on the playing fields.One who has achieved skill or proficiency in games but has not learned to apply the principles of sports to life in general doesn't deserve to be a true sportsman!!.

By :- Piyush Kumar

IT 2, B.Tech 4th year

NEW PLACE

Starting college is like entering in a new phase of life. New city, new friends, new experiences, new responsibilities these are just a glimpses of what awaits you. One of the biggest change that occurs in the life of most students is shifting to college hostels. The nervousness and anxiety of having to move to a different city and sharing your room with a stranger etc, it all fades away in the excitement of the freedom that college life offers. And although, hostel life can be a lot of fun there are some aspects that you must be aware of before embarking upon the new roller coaster ride of being the naive hosteller.All in all, living in a hostel can be a life changing experience and you will definitely cherish it for years to come

By   :   Jeegisha Srivastava
IT -1 , 3rd year

THANK YOU !!

send your articles at
itanium.imsec@gmail.com

IMS Engineering College

National Highway 24, Near Dasna, Adhyatmik
Nagar, Ghaziabad, Uttar Pradesh, 201009