MINDROID

Exploring Excellence

IEEE KALINGA UNIVERSITY STUDENT BRANCH

KALINGA UNIVERSITY

IEEE STUDENT BRANCH KALINGA UNIVERSITY

First Edition (April - September 2022)

MESSAGE FROM PRESIDENT-ELECT, IEEE COMPUTER SOCIETY

Nita Patel, P.E., PMP
Sr. Director, Engineering @ Otis
President-Elect @ IEEE Computer Society
Director, IEEE Foundation nita.patel@ieee.org

Dear Dr. Vijayalaxmi Biradar,

I am extremely honored to congratulate the newly established Kalinga University, Naya Raipur for launching this Digital Magazine initiative. I am pleased to see the incredible recognitions the university has already received including accreditation by NAAC, being in the NIRF Ranking 2021 in the 150-200 band and being the ninth private university to receive the prestigious UGC 12(B) designation for research and development. Congratulations!
Additionally, I know of your volunteer work to advance women in engineering and wish you the best in continuing the work at Kalinga University. This reminds me of the power of augmenting technical learning with volunteering to improve critical business and leadership skills, such as problem solving, coaching/mentoring, and communicating effectively.
In a study, How Volunteerism Shapes Professional Success, conducted by Power Skills, professionals stated they gained many leadership skills through their volunteer activities. These skills include:

Leadership	Organization/multitasking
Communications	Finance/budgeting/accounting
Fundraising/resource development	Coaching/mentoring
Patience	Meeting planning
Political astuteness	Interviewing/hiring
Problem solving	Research

I know students at Kalinga University will have the opportunity for incredible technical learning augmented with opportunities for developing additional skills through volunteering. I wish you, the faculty and, most particularly, the students, the absolute best as you embark on this new endeavor. May it be a wonderful and auspicious learning journey.

Sincerely,

Nita Patel, P.E.

About IEEE

IEEE is the world's largest technical professional organization dedicated to advancing technology for the benefit of humanity. IEEE and its members inspire a global community through its highly cited publications, conferences, technology standards, and professional and educational activities.

About IEEE Kalinga University Student Branch (IEEE KU SB)

About IEEE Kalinga University Student Branch (IEEE KU SB) IEEE Student Branch of Kalinga University was established on 4th April, 2022. IEEE Student Branch of Kalinga university is a part of IEEE Madhya Pradesh Section. The Objective of IEEE KU SB is to enhance the learning experience of the student community and develop a research environment among Faculty members. The Student Branch focuses on conducting social and technical activities for students, and also encourages the students to take full advantage of the benefits of IEEE membership, including scholarships, competitions, and conference grants. The Student Branch also intends to provide opportunities for students to network with peers in other institutes, academicians, professionals, engineers, and scientists through the on campus IEEE Student Branch and the Local IEEE Section, thereby encouraging students to be a part of the global IEEE community.

MESSAGE FROM IEEE R10 SECRETARY

Prof. Takako Hashimoto
IEEE R10 secretary,
Former IEEE WIE CHAIR

IEEE WIE is here to help you succeed!

Congratulations on the establishment of the IEEE Student Branch at Kalinga University and on the successful petition for WIE AG.

In 2022, WIE is celebrating its 25th anniversary. Today, WIE has established a stronger network, encouraged WIE affinity groups and volunteerism, and has grown to over 30,000 members and over 1,000 affinity groups. These accomplishments have been made possible by a dedicated and vibrant community of volunteers led by WIE chairs and leaders.

IWIE has managed to establish its existence and goodwill worldwide, and it has also successfully grown over the years. The number of WIE members has dramatically increased, and we've globally extended our activities through conferences, workshops, forums, fund supports, training, publishing, and communication to spread our mission and message to larger communities. We, WIE, are an extremely valuable science, technology, engineering, and math resource for women and girls, and we can expand our network globally.

We need to plan and extend our activities further to realize our dream of building a zero-gender-gap society, where men and women will work together hand in hand in every corner of life with equal responsibility. We need everyone's ideas and opinions for planning such activities. I would like to request that all of you participate actively, to express your opinion, your ideas, and your plans for improvement and the realization of WIE's basic mission of empowerment of women.

This year will provide many opportunities as well as challenges to each of us in our volunteer, professional, and personal lives. As you take advantage of the opportunities, challenges will also come invariably with them.

Let's work together to change the world!

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LET'S HEAR FROM THEM

I am gratified to know that the IEEE KALINGA UNIVERSITY STUDENT BRANCH is bringing out the magazine “MANDROID” of this academic year (2022-2023). This is a productive technical material and subsidiary skill developing tool for the students. I wish this organization “IEEE STUDENT BRANCH KU“ a very big success in all their ventures. I also applaud the coordination and efforts behind the team to bring out this . I wish them all success.

Dr. Rajeev Kumar
Chairman
Kalinga University

I am delighted to hear that the IEEE Student Branch at Kalinga University is publishing the "MANDROID" magazine for the very first time. This is an effective technical resource and tool for pupils to improve ancillary skills. I wish the "IEEE KU SB" much success in all of their endeavors. I also commend the team's collaboration and efforts in bringing this out. Wishing all the best to the team.

Dr. Sandeep Arora
Chancellor
Kalinga University

I strongly believe, Innovation and technology can bring in social impact and as an Engineer/Scientist or Technologist. It is a great pleasure for me to know that the IEEE STUDENT BRANCH KU of KALINGA UNIVERSITY has taken an initiative to publish IEEE magazine 1st edition 'MANDROID'.I am confident that the 'MANDROID' magazine will be helpful to institutionalize the dream of digital Chhattisgarh, I would like to extend my heartiest congratulation to IEEE KU SB.

Dr. R. Shridhar
Vice Chancellor
Kalinga University

This amazing accomplishment is just one step on your journey. Your ability to relentlessly search for solutions to problems and find innovative ways to improve the world is the key to this success and many to come. The major focus of IEEE KU SB today is on creating an optimized and vibrant platform for quality knowledge enhancement and bridging the gap between academia and industry. Best wishes to the team IEEE KU SB for your 1st edition magazine "MANDROID" .

Dr. Sandeep Gandhi
Registrar
Kalinga University

IEEE is a great platform to exchange the latest innovative research experiences and the recent development and Technology. We have some definite progressive plans to take IEEE SB KU to a greater heights in terms of student activities, and workshops, membership development, women in Engineering, member benefits, etc. I hope IEEE MAGAZINE "MANDROID " gives you a great knowledge about growing technology. I would like to thanks all the volunteers for their support.

Dr. Vijaylaxmi Biradar
Director, IQAC
IEEE KU SB Mentor
Kalinga University

I am exhilarated in establishing magazine “MANDROID” of our IEEE SB which is a reference of the most recent trends and activities IEEE SB KU. I am glad to welcome students with more interest in bringing the article with more bright concepts and innovative ideas in the next issue. I am appreciating students for taking this initiative of launching magazine. I wish them to experience victory in all of their future endeavors.

Mr. Anup Kumar Jana
IEEE KU SB Counsellor
Kalinga University

INAGURATION OF IEEE KALINGA UNIVERSITY STUDENT BRANCH

5th April 2022

In order to nurture the students of Kalinga University at global level, university has started the student branch of IEEE at Kalinga University in the presence of Chief Guest Mr. Shubham Gupta, SAC Chair, IEEE Madhya Pradesh Section.

IEEE Student Branch providerits members a networking opportunity to meet and learn from fellow students, as well as faculty members and professionals in the field to share their interests, future professions and ideas. In addition to improving their soft and hard skills.

Guest Speakers Dr. Maifuz Ali, SIGHT Chair, IEEE MP Section, Dr. RN Patel, TIPAC Chair and Coordinator incharge Chhattisgarh IEEE MP Section, Dr. Saji T Chacko, Vice Chair SIGHT IEEE MP Section, Dr. Vivek Tiwari, News-letter Coordinator IEEE MP Section shared their experience and briefed about the objectives of formation of Student Branch in Kalinga University. The program was organized on 5th April 2022. The future aspects and long life learning benefits students are going to receive through IEEE was shared. Five students came forward to get membership of IEEE for their future projects and many others expressed their willingness to be part of this IEEE group.

IEEE KU SB LOGO MAKING COMPETITION

26th April 2022

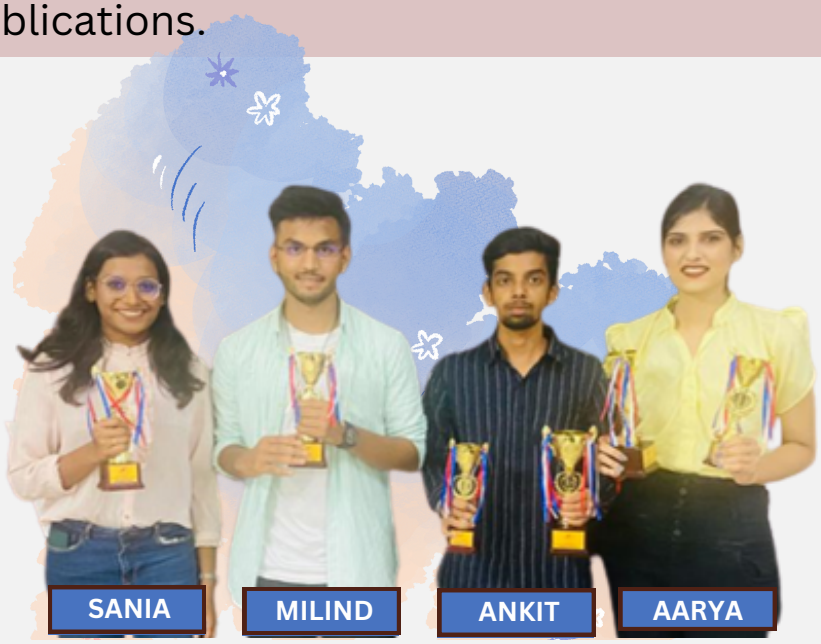
The logo making competition was conducted on 26th April 2022. The winners and the runner-ups were were honored with trophy and certificates. The winner of the competition were Mr. Tanmoy Saha and Mr. Ramesh Regmi. Their work were selected as the official logo for the student branch of IEEE Kalinga University.

The first runner up was Mr. Harsha Sah followed by Ms. Aarya and Mr. Ankit as second runner-up. Special Mention to Mr. Kapil and consolation prizes were for Ms. J.Likhita and Ms. Arpita.

SOCIAL IDEA ENTERPRISE CHALLENGE

29th August 2022

Social Idea Enterprise Challenge was a sponsored program by **IEEE Region 10 Educational Activities and IEEE MP Section** with total fund of **USD 200**. The aim of the program was to provide awareness about social entrepreneurship among the students as a tool for social action. The program was organized to act as resource center for the social enterprise ecosystem in Raipur through various events, program and publications.



WINNERS OF SOCIAL IDEA ENTERPRISE CHALLENGE

INNOVATION AND INCUBATION PROJECTS

4th July 2022

STUDENTS SHOWCASING THEIR INNOVATIVE PROJECTS.

Moses Joseph with his team presenting their Smart Irrigation project.

Team lead by Bigit Krishna Goshwami presenting their Smart Garbage Monitoring project.

Tanmoy Saha and his team presenting their Robot controlled car project.

IEEE KU SB INTERNSHIP PROGRAM

Students of different faculty in engineering going for their internship at Army Camp in Bangalore. IEEE member students at Kalinga University can grab the opportunity to go for an internship through IEEE Kalinga University Student Branch. Many students have got their first internship through recommendation and active involvement in IEEE KU SB activities.

"ARE YOU AN IEEE MEMBER? IF NOT THEN DON'T BE LATE TO JOIN."

Selected students heading for the internship

Workshop on TEACHING SCIENCE HOLISTICALLY

3rd September 2022

RURAL SCHOOL TEACHERS

The activity was conducted with the aim to train rural school teachers. It was an initiative lead by **Dr. Vijaylaxmi Biradar.**

The workshop was conducted with the financial assistance of **IEEE Region 10 Educational Activities and IEEE MP Section** with total grant of **USD 150**. Total of 49 teachers from various rural schools (Government Higher Secondary School; S.A.G.E.S, Abhanpur; Government B.D.H.S.S., Abhanpur) attended the workshop. Teachers performed different activities including building a minor project that worked on basic school science. Teachers were judged on various criteria for their participation in activities and their final projects. The projects were to be done in a team that showed how important team work in completion of certain activity. Based on the feedback, they were positive on implementing the learning with their students as well.

THE FUTURE OF LANGUAGE GENERATION: A LOOK AT DALL·E 2

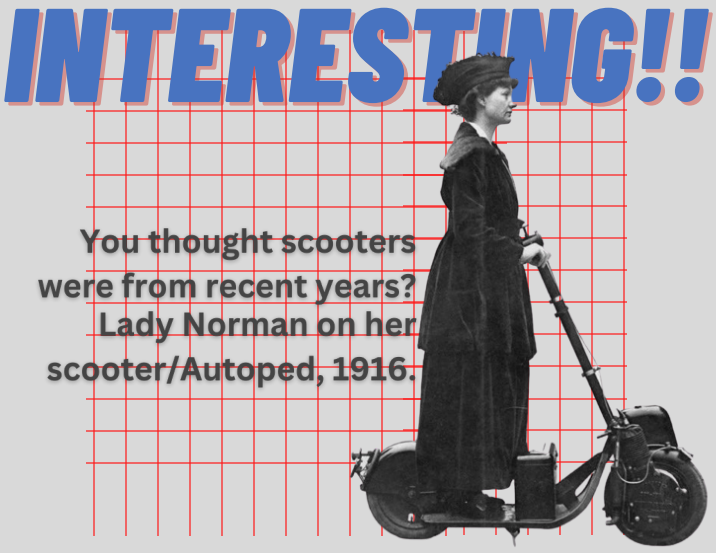
Chahil Choudhary
BE CSE, 4th Semester,
Chandigarh University, Mohali

DALL·E 2 is a state-of-the-art language generation model developed by OpenAI, which is set to revolutionize the way we interact with machines and generate human-like text. This technology is based on the original DALL·E model and has been trained on a diverse set of internet text, allowing it to understand and respond to a wide range of human language inputs.

One of the most impressive capabilities of DALL·E 2 is its ability to generate high-quality images and text from textual prompts. This opens up a wide range of possibilities, such as creating new digital art, designing websites, and even architectural renders.

Another major feature of DALL·E 2 is its ability to understand and respond to a wide range of human language inputs, even when they are incomplete or ambiguous. This allows it to be more versatile and useful in a wide range of applications, from customer service to creative writing.

Overall, DALL·E 2 is a powerful technology that has the potential to greatly improve human-machine interactions and make our lives easier in many ways. As this technology continues to evolve, we can expect it to become an essential part of our daily lives.



EXPLORING THE CAPABILITIES OF CHAT GPT: A STUDY OF NATURAL LANGUAGE PROCESSING AND GENERATIVE TEXT GENERATION

Vijay Kumar Sahu
B.Tech 8thSem Student, Kalinga University, Raipur

Natural language processing (NLP) has made significant strides in recent years, with the development of powerful language models such as GPT (Generative Pre-trained Transformer). These models have the ability to generate human-like text, raising the possibility of using them for tasks such as language translation, summarization, and even dialogue generation. In this article, we aim to explore the capabilities of GPT as a chatbot by examining its performance on a variety of tasks involving natural language generation. We will also discuss the potential applications of GPT and other NLP technologies in the field of chatbots and beyond.

To assess the performance of GPT as a chatbot, we trained the model on a large dataset of chatbot conversations and conducted a series of experiments to evaluate its ability to handle various NLP tasks. The results of these experiments were impressive, with GPT demonstrating strong performance on tasks such as language translation and summarization. However, we also identified several limitations of the model, including its ability to handle unexpected input and its potential for generating biased or offensive language.

Despite these limitations, the potential applications of NLP technologies in chatbots and other settings are numerous. For example, chatbots could be used to improve customer service, provide virtual assistance to users, or facilitate communication in online communities. In the future, it is likely that NLP technologies will play an increasingly important role in our daily lives, and it is important to continue studying their capabilities and limitations in order to ensure their effective and ethical use.

Overall, our study has provided valuable insights into the capabilities and limitations of GPT and other NLP technologies in the context of chatbot development. We believe that these findings will inform the development of future chatbots and other NLP-based systems, and contribute to the continued advancement of this exciting field.

BERT MODEL

Pooja P. Raj
Assistant Professor, Department of Computer Science, Kalinga University, Raipur

One of the researchers from the google research work discovered a natural language processing model called BERT. BERT full form is Bidirectional Encoder Representations from Transformers. Many NLP algorithms along with semi-supervised training architectures are used in the BERT Model. The main advantage of the model is that it is an open-source machine learning framework in NLP along with it works in the concept of semi-supervised learning. It helps to recognize the specific pattern of the language and train the model from that pattern. In simple terms, the work of the BERT Model is to recognize the masked terms or words and train the model in a supervised way. Like in the real world, we have different words with the same pronunciation or spelling but the meaning may vary according to the situations it is used. For example, the word "Lie" has two meanings one depicting "the resting position" while the other meaning is "not true" similarly the word "train" also has two meaning one is "mental or physical exercise" while the other is "transport vehicle". This model is discovered to identify the meaning of the ambiguous words in the document by comparing or learning with the words in the given document environment.

ADAPTING QR IN E-GOVERNANCE

Harsha Prasad Sah
B. Tech CSE ,8th Sem
Kalinga University, Naya Raipur

To advance to the digital world, QR codes (Quick Response codes) can have a huge impact in the sector of e-governance. With the help of blockchain and cloud computing, we can make e-governance work very efficiently. We can use blockchain to secure records in a decentralized and transparent manner. QR in this sector can help us with accessing those identities efficiently with high security. QR codes can help citizens to interact with governmental services efficiently.

On scanning the QR, the individual can access the required identity or information, which can be helpful in many ways and sectors. Suppose we have our digital passports linked with the QR securely. With this, we won't need to carry our passport in our hand, we can access it from anywhere around the world digitally. Imagine being able to move from one country to another without the need for a long procedure to validate our visa and passport. With the implementation of digital governance and collaboration among countries, there can be less time to be spent on such processes.

This system can help with digital identities such as citizenship, driving licence, passports, tax filing and payment, land management, transport sector, banking, Know Your Customer (KYC), etc. Estonia has been running digital governance since 2001 but the methodology has been different. They use unique serial numbers for every citizen. In order to make this system work, security cannot be compromised. The system can be backed by blockchain and cloud computing to make it secure.

STUDY OF DIFFERENT TYPES OF SENTIMENT ANALYSIS TECHNIQUES

Swati Tiwari
Assistant Professor CSE, Department Kalinga University

In the present day and age, billions of volumes of literary substance are being produced all over. In-applications messages like WhatsApp, Wire, virtual entertainment locales like Facebook, Instagram, news distributing destinations, Google look and numerous different sources. This large number of sources is continually creating colossal volumes of text information consistently. What's more, due to these gigantic volumes of text information NLP turns into an essential asset in grasping the literary substance. In this article, the principal center is around the well known NLP undertaking of Opinion analysis. Sentiment analysis is logical mining of text which distinguishes and removes abstract data in text based information. Sentiment analysis ends up being an unbelievable resource for clients to remove fundamental data and helps associations with grasping the social opinion of their image, item or administration while checking on the web discussions.

A GLIMPSE OF DEEP LEARNING IN A NUTSHELL

Durgesh Singh Rajput
B.Tech CSE ,8th Sem
Kalinga University,Naya Raipur

A machine's capacity to imitate intelligent human behaviour is known as artificial intelligence. Computers may now "learn" from data without explicit programming thanks to a field of artificial intelligence called machine learning (ML). Artificial neural networks (ANNs), a kind of machine learning that is used in deep learning, are self-learning algorithms that take their cues from the structure and operation of the brain. ANNs are trained to "learn" patterns rather than being explicitly taught how to solve a problem.

The perceptron, an algorithm modelled after biological neurons, serves as the basis of the ANN. Even though perceptron was created in 1957, ANNs were not well recognized until recently because they require considerable training and the quantity of training necessary to produce useful results exceeds the size and size of computers.

DIGITAL INDIA FOUNDATION

Aishwarya Huded
Department Of Electronics And Communication Engineering (5th Sem)
Guru Nanak Dev Engineering

The government of India is to strengthen the digital society and government departments and the citizens of India to digitally integrate so the “Digital India campaign” is launched by our prime minister. The campaign is launched by our government for giving services electronically. Digital India is a utility for every citizen, providing services to citizens with the availability of high-speed internet. To provide a digital identity to all citizens of India. The availability of government and public services. integrated services departments. We know that when we have mobile on the platform then we can know the train's exact timing to come on the platform.

Universal access to digital resources,

Indian language digital resources/ availability of services also. ” digital lockers” name, the government has launched a digital locker. The digital locker system aims to reduce the use of physical documents, and different agencies enable the exchange of e-document .mygov. A partnership between citizens and the government to establish a new platform which has been implemented.

Digital India, is a great contribution from the government to the development of the country.

THE ROLE OF MATHEMATICS IN INNOVATION

By mastering mathematical concepts, we begin to understand everything around us and be more attentive to everyday situations. Mathematics learning is well known for enhancing analytical and problem-solving skills, it allows us to learn quantities, structures, space and patterns included in latest innovations. Mathematical thinking and analytical skills are highly desired in every learning discipline including understanding and comprehension of innovations. So it’s of no surprise that mathematics plays an important role in creation of innovations in fields such as; medicine, computer technology, energy, transport and agritech just to name a few. Even the process of innovation itself, although a bit of mystery how it happens, follows a set of patterns which have been mathematically modeled to study the interplay between the actual and the possible, in mathematics, we start by defining a problem and work to derive a solution. Similarly, the innovation question is firstly translated into a mathematical problem and later turns a mathematical solution into an actual innovation.

So, Innovation is strongly knotted with mathematics. From ideas to proof of concept, implementation and real-world use, mathematics plays a role in every innovation journey.

Amon Pengeyo
MA-Mathematics, 4th semester student, Dep. of Mathematics, Kalinga University, Raipur

SOFT6 - ERASING DIGITAL DIVIDE LEVERAGING SOFTWARIZED 6G

Deborsi Basu,
Graduate Student Member IEEE
Research Fellow, IIT Kharagpur, India

According to 3GPP, the next-generation communication networks (e.g., 6G & beyond) are committed to covering most of the previously unconnected regions. Maximum global coverage is challenging due to a lack of proper infrastructure and technology. Especially for the 3rd world countries or developing countries (e.g., India, Bangladesh, Cameroon, Greece, Kania, Ireland, Qatar, Denmark, etc.), incorporation of advanced technologies is an extremely challenging task. Almost half of their populations fall in rural areas, and the economic backbone cannot afford any costly up-gradations of future communication networks. A developing country contains both urban and rural areas. The user demands, traffic characteristics, location sparsity, and many other critical network issues are not identical for urban and rural areas, further intensifying the notion of the digital divide. The discrimination in technological resource distributions is prominent and alarming. In countries like India, where almost 30% of people live below the poverty line, and almost 60% of the population do farming for their livelihood, affording a costly service is impossible for the consumers. On a broader aspect, nearly half of the global population cannot afford costly 6G network services. Thus, the principal aim of the worldwide coverage of 6G and beyond communication networks will be severely affected. Keeping all these fundamental hindrances, we along with the efficient groups of network scientists support the incorporation of softwarization and virtualization of network operational platforms. Programmable networking is going to give future communication networks a revolutionary paradigm shift using which global connectivity becomes possible. There are some crucial challenges in the path, and researchers are sincerely looking into fileable solutions for the betterment of humanity and society.

NO MORE WORRIES: INTRODUCING THE FIRST EVER BRAIN IMPLANT FOR THE TREATMENT OF DEPRESSION

Sricheta Parui
Ph.D. Student, Indian Institute of Technology, Kharagpur

Brain-Computer Interface becomes that magic wand that can actually blow anyone's mind by reading their minds. Depression is the most common chronic condition in the world, affecting 241 million people before to COVID and more than tripling during the pandemic. We all know that Neuralink, a company founded by Elon Musk and a group of scientists and engineers has recently experimented with a monkey on tele-pathetic typing and waiting for the human trial to begin. Meanwhile, another neurotech company called Inner Cosmos launched their first brain implant that can actually treat patients with depression. This device is made up of two parts: an electrode that lies beneath the scalp's skin and a prescription pod that clamps onto the user's hair to power the gadget. It is powered by an app that runs on a smartphone and can display the mood and the ratio in a graphical format to represent the amount of depression. Once a day for 15 minutes, the implant emits small electrical pulses to the brain region affected by depression, the left dorsolateral prefrontal cortex. And the good part is when treatment is not being provided, the external device is not required to be worn on the head. The study patient from St Louise, Missouri, is planned to test Inner Cosmos invention for a year, and the business plans to begin another human experiment next month. Implants to cure all brain alignments are creating ripples in the business, with numerous companies competing to be the first to market.

FUN FACT

You might not have noticed, but your days are getting slower. The average day has increased by around 1.8 milliseconds every century over the last 27,000 years.

EARTHQUAKE - RESISTANT BUILDING DESIGN

Parash Mani Thakur
B.Tech Civil , 8th Sem Kalinga University, Naya Raipur

The earth shakes due to an earthquake. As a result, the base of the structure sitting on it will move. According to Newton's first law of motion, the roof tends to remain in its initial position even as the base of the building moves with the ground. However, because the columns and walls are attached to it, they drag the roof along with them. Inertia refers to this tendency to stick to a previous position. The roof of a building moves differently from the ground because the walls or columns are flexible.

Columns experience relative displacement between their ends during an earthquake. The quantity u between the ceiling and the ground represents the inertia of this motion. This internal force in the columns increases with the relative horizontal displacement u between the top and bottom of the column. Additionally, this force increases with column stiffness (ie, column size). For this reason, these internal forces in the columns are referred to as stiffness forces. The stiffness force in a column is equal to the stiffness of the column times the distance between its ends.

An earthquake causes the ground to shake in all three directions, including two horizontal and vertical. All buildings are primarily built to carry gravity loads. Gravity load is the name for the decreasing force of Mg. Vertical acceleration during ground shaking either increases or decreases gravitational acceleration. Since safety issues are considered when designing structures to withstand gravity loads, most structures usually have sufficient stability to withstand vertical shocks. However, there is still reason to worry about horizontal jitter in the X and Y directions (both the + and - directions of each). The effects of horizontal earthquakes may not generally be safely absorbed by structures built for gravity loads.

AI IN HEALTHCARE IN INDIA

RANIA
B.E 3rd Sem, Chandigarh University, Mohali

There are numerous challenges in India's healthcare sector like affordability, inequality and efficiency. On one hand, India is considered home to one of the largest healthcare systems with some of the best hospitals. On the other hand, there is a medical personnel shortage in India. The Covid-19 pandemic helped in recognizing the need for increased medical workers. India's adoption to new AI innovations in healthcare can bridge the gap of these existing challenges. Many Indian companies are working on AI solution providers like Qure.ai, Niramai dedicated to making healthcare solutions affordable and accessible. These AI technologies make use of deep learning or ML algorithms to diagnose diseases at an earlier stage than the traditional methods or self-examination. This can help doctors and radiologists make more accurate and efficient diagnoses. There has also been an increasing use of AI-driven chatbots in the healthcare system. One such is the AKS Sapio Med Bot which was created to understand the patient's personal concerns while assisting them in seeking treatment prior to medical consultations. This addresses the concern of rural population being overlooked . Chatbots can also assist in booking appointments and saves the hassle of standing in long lines. There are multiple other AI startups working to bring new technologies to transform the face of medical care in India. The incorporation of AI tools, guaranteeing meaningful human control will provide advantage to India's medical sector in the long run.

QUANTUM COMMUNICATION

Bigit Krishna Goswami
B. Tech CSE, 8th Sem
Kalinga University, Naya Raipur

When most people think of communication equipment, they think of gigantic cryochambers and devices of such size. However, the size reduction of quantum devices is an important step towards real-world communication applications such as ATMs and POS, with its 1 second transaction time regardless of hand movements and environmental conditions. This signifies the need for short-range quantum communication. These are known or called as on-chip, handheld or compact, depending on the size of the technology.

These small on-chip quantum communication devices need to be highly efficient in accomplishing important and difficult tasks such as generating single-photon states, manipulating, and storing those photon states, and successfully detecting them. Conventionally, these devices must be connected to conventional devices for each quantum human interface. The success of this quest will be measured primarily by how well the new chips use established telecommunications industry components and manufacturing processes. Very promising experimental demonstrations of quantum teleportation and entanglement distributions have been performed.

CIVIL ENGINEERING WITH 3D PRINTING

Nehal Kumar Adhikari
B. Tech CSE, 8th Sem
Kalinga University, Naya Raipur

Construction technologies like 3D printing could change the way materials are sourced. Printing the entire construction on-site, ready for use right away, requires prefabrication materials for a building. By cutting out unnecessary procedures in the middle, this can help businesses receive goods more quickly and streamline the process.

Building-related garbage makes up 25% to 40% of the country's solid waste network, according to research by the American Institute of Architects. With 3D printing, it will be feasible to produce the entire construction on-site, minimizing waste and saving time and money on storage. Printing uses off-site fabrication, additive welding, and powder bonding. ARCS, 3D concrete printing, D-shape technology, and other businesses have all filed patents for these various techniques.

In Russia's Moscow area, in the town of Stupino, it was constructed. 38 meters square is the size of the printed structure. Less than a day was needed for envelope printing and construction. Printing required a total of 24 hours of machine time.

Benefits of using 3D printing in construction:

Construction can be completed more quickly than using the traditional method, which involves labour.
Lower labour costs: When using this strategy, there will be a lot less labour needed (only skilled labour is required)
Enhanced complexity and precision: When we design a complicated structure, printers can print it quickly and error-free.
Improved function integration.
Less trash is generated since printed structures are correct and printers generate less garbage.

INTERESTING!!

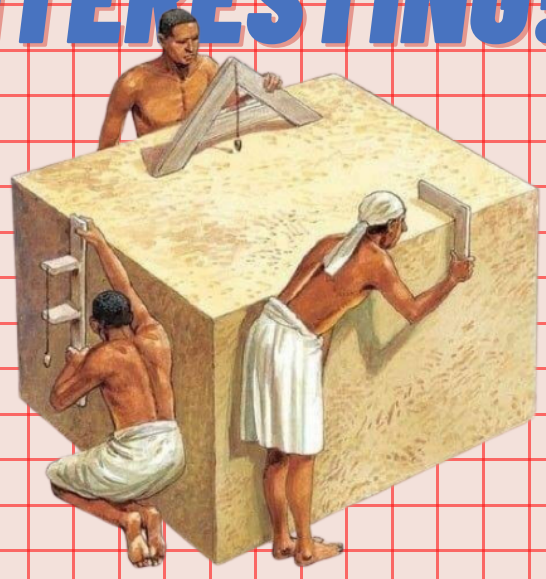


Fig. Historical engineering tools

IEEE KU SB OFFICIAL VOLUNTEERS

Dr. Vijaylaxmi Biradar
MENTOR, IEEE KU SB

Mr. Anup Kumar Jana
COUNSELLOR, IEEE KU SB

Mr. Sarat Ch Mohanty
ADVISOR, IEEE KU SB

Mr. Harsha Prasad Sah
DESIGNER AND EDITOR, MINDROID

Mr. Parash Mani Thakur
CHAIRPERSON, IEEE KU SB

Mr. Gopal Prasad Patel
OFFICE ASSISTANT

Mr. Nehal Adhikari
VICE CHAIPERSON, IEEE KU SB

Mr. Ashwan Kumar Sahu
OFFICE ASSISTANT

Mr. Durgesh Kumar Singh
WEB MASTER, IEEE KU SB

Mr. Bigit Krishna Goswami
WEB MASTER, IEEE KU SB

Mr.Jivan Jyoti
SECRETARY, IEEE KU SB

Mr. Akash Kumar Sharma
TREASURER, IEEE KU SB

IEEE STUDENT BRANCH

KALINGA UNIVERSITY

NEWLY JOINED MEMBERS

Dr. Sandeep Gandhi
Dr. Vijayalaxmi Birader
Mr. Rahul Mishra
Mr. Omprakash Dewangan
Dr. Smita Premanand
Ms. Chhaya Banjare
Ms. Khushi
Mr. Avinash Dewangan
Mr. Kushal Kolte
Mr. Himanshu Das
Mr. Akash kr. Sharma

Dr. N. K. Dhapekar
Mr. Shailesh M. Deshmukh
Mr. Anup Kr. Jana
Mr. Pankaj Tiwari
Mr.Sarat Chandra Mohanty
Dr. Abhishek Tripathi
Dr. V.C. Jha
Mr. Parasmani Thakur
Mr. Nihal Adhikari
Mr. Jivan Jyoti
Mr. Md. Sahil Sheikh

Mr. Aditya
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