Department of Information Technology

Presents...

A Technical Magazine

Issue 10, July 2021

Final Year passed out batch (2020-21) of B.Tech students Group Photo

KAKATIYA INSTITUTE OF TECHNOLOGY & SCIENCE

Warangal – 506 015, Telangana, INDIA. (An AUTONOMOUS INSTITUTE under Kakatiya University, Warangal)

కాకతీయ సాంకేతిక విజ్ఞాన శాస్త్ర విద్యాలయం, వరంగల్ – ౫౦౬౦౧౫.
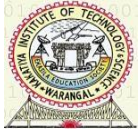
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KITSW

Editorial Board

1. Faculty

S. No.	Responsibility	Name of the Faculty	Designation
1.	Chief Editor	Dr. P. Kamakshi	Professor &Head, Dept. of IT
2.	Faculty Editor	Sri T. Mahesh Kumar	Assistant Professor, Dept. of IT

2. Students

S. No.	Roll Number	Name of the Student
1.	B17IT019	Sai Srikar Puppala
2.	B17IT024	Pulluri Srinija
3.	B17IT032	Pabba Spoorthy Shivani
4.	B17IT045	Kalva Mahesh

BITWISE
MAGAZINE
DEPARTMENT OF INFORMATION TECHNOLOGY

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(An Autonomous Institute under Kakatiya University, Warangal.)
DEPARTMENT OF INFORMATION TECHNOLOGY

Dr. K. Ashoka Reddy
Principal

Message

It gives me immense pleasure to pen a few words as prologue to our in-house Technical Magazine exclusively meant for churning out the latent writing talent which bears immense potentiality of sharpening communication skills as part of overall personality development. I congratulate the editorial board of the Technical Magazine for their untiring efforts in collecting and compiling the data without which it would have not been possible to place this magazine in your hands. I, on behalf of KITSW family, wish you all the best for achieving greater success and scaling new heights in the future.

BITWISE
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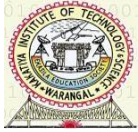DEPARTMENT OF INFORMATION TECHNOLOGY

Kakatiya Institute of Technology & Science, Warangal

(An Autonomous Institute under Kakatiya University, Warangal.)

DEPARTMENT OF INFORMATION TECHNOLOGY

Dr.P.Kamakshi
Head of the Department

<u>Message</u>

It gives me an immense pleasure to present tenth issue of BITWISE Magazine from Dept of IT. The past year was full of various activities by the students and faculty in academic, co curricular, extra-curricular as well as research & developments. We are proud of the accomplishments of our alumni for their achievements in academic, higher studies and placements in fastest-growing IT companies. Faculty members published research papers on complex issues in various fields of computer science and Information technology. It is our aim to educate and inform anyone who has an interest in latest technologies and upcoming research directions in the field of computers. Throughout the Magazine you will see articles on the varied aspects of technical as well as non-technical topics from students and faculty members.

We welcome your feedback and would like to hear what you think of the BITWISE Magazine.

Department Profile

The Department of Information Technology was established in the year 1999, Department offers a 4-year course of B.Tech. degree programme in the Information Technology, with an annual intake of 120 students. The intake was enhanced to 120 students in the 2020. The department is also offering M.Tech (Data Science) from the year 2020. The hallmark of IT Department is to develop technologically competent IT professionals in today's IT centered scenario. The strengths and facilities of the department are increasing year by year. Well qualified, experienced and committed faculty members are an asset to the Department. The Department has well equipped laboratories to cater the needs of the students. To expose the students to the current trends in the areas of Information Technology and allied ones, the Department conducts a National Level Students' Technical Symposium in every academic year and also the Department organizes several training programmes for both students and faculty members to get acquainted with the cutting-edge technologies emerging day-by-day. Students of IT Department have made remarkable achievements both in academics and sports as well. The Department has formal alliances with reputed IT-oriented organizations to facilitate student training, projects, internship and expert lectures.

VISION AND MISSION OF DEPARTMENT

VISION:

To become a Center of Excellence in the Information Technology discipline with effective teaching and strong research environment that makes our students globally competitive with strong ethical values and leadership abilities.

MISSION:

- To impart technical knowledge to the students to turn out proficient and well groomed engineers.

- Motivate students to improve skills by attending training programs and internships that leads to develop innovative projects in emerging technologies.

- To train our students for higher education, leadership in profession and adopt quality research.

Programme Outcomes (POs):

Engineering Graduates will be able to:

PO1	**Engineering Knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO2	**Problem Analysis** : Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
PO3	**Design/Development of Solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations
PO4	**Conduct Investigations of Complex Problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
PO5	**Modern Tool Usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations
PO6	**The Engineer and Society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
PO7	**Environment and Sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
PO8	**Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO9	**Individual and Team Work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO10	**Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
PO11	**Project Management and Finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments
PO12	**Life-Long Learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

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Programme Educational Objectives of the Course:

- To provide students with a sound foundation in Information Technology theory and practices to analyze, formulate and solve engineering problems.
- To develop an ability to design algorithms, implement programs and deploy software.
- To develop Information Technology solutions with the changing needs of the society for the career-related activities.

Programme Specific Outcomes of the Course:

- Apply analytical and experimental problem-solving skills in the Information Technology discipline
- Use fundamental knowledge to investigate new and emerging technologies leading to innovations in the field of Information Technology.
- Begin immediate professional practice as an Information Technology Engineer.

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Kakatiya Institute of Technology & Science, Warangal-15

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DEPARTMENT OF INFORMATION TECHNOLOGY

Teaching Faculty, Non-Teaching & Support Staff

TEACHING FACULTY

S.No.	Name of the faculty	Designation
1.	Dr. P. Kamakshi	Professor & Head
2.	G.K.Shailaja	Associate Professor
3.	Dr.T.Senthil Murugan	Associate Professor
4.	B.Kiran Kumar	Associate Professor
5.	A.Bhaskar	Associate Professor
6.	Dr.Y.Bhavani	Associate Professor
7.	P.Sudharshan Ray	Assistant Professor
8.	S.B.Swathi	Assistant Professor
9.	M.V.Phanindra	Assistant Professor
10.	M.Kishore	Assistant Professor
11.	R.Gautam	Assistant Professor
12.	T.Mahesh Kumar	Assistant Professor
13.	Dr.K.Praveen Kumar	Assistant Professor
14.	K.Gautham Raju	Assistant Professor

NON-TEACHING & SUPPORT STAFF

S.No.	Name of the faculty	Designation
1.	M.Srilatha Devi	Programmer
2.	Ch.Devender	Programmer
3.	P.Sathish	Jr. Assistant
4.	K.Mahender	Attender

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Research Publications of faculty :

Dr. P. Kamakshi

Journal:

Dr. P. Kamakshi, "Sentimental analysis on Healthcare Tweets", Indian Journal of Public Health Research & Development Vol. 11, No. 6, pp. 566-568, 2020

Sri. B. Kiran Kumar

Conference:

Y. Bhavani and Kiran Kumar Bejjanki, "BO-TREE: An Efficient Search Tree", 2020 IEEE 17th India Council International Conference (INDICON), New Delhi, India, 10-13 December 2020. ISBN: 978-1-7281-6916-3.
DOI: 10.1109/INDICON 49873.2020.9342183

Sri. Baskar Adepu

Conference:

Bhaskar Adepu, Jayadev Gyani and G. Narsimha, "A Novel Multi-Objective Differential Evolution Algorithm for Clustering Data Streams", 2nd International Conference on Image Processing and Capsule Networks (ICIPCN 2021) –Springer, May 2021

Dr. Y.Bhavani

Conference:

Dr. Y. Bhavani, Dr. K. Praveen Kumar, K. Dharmateja and P. Pranathi, "Survey on Deadlock in Distributed database Systems", Third International Conference on Intelligent Communication Technologies and Virtual Mobile Networks, Francis Xavier Engineering college, Thirunelveli, 04-06 Feb 2021.

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Bhavani Yerram, Jaya Krishna Bhonagiri, "An Efficient Sorting Algorithm for binary data", IEEE - ICCCNT 2020, July, 1-3, IIT-Kharagpur.

Y.Bhavani, Sai Srikar Puppala, Spoorthy Shivani Pabba and Kavya Sri Kasarla, "Image Segmentation based Hybrid watermarking Algorithm for copyright protection", IEEE - ICCCNT 2020, July, 1-3, IIT-Kharagpur.

Y. Bhavani and Kiran Kumar Bejjanki, "BO-TREE: An Efficient Search Tree", 2020 IEEE 17th India Council International Conference (INDICON), New Delhi, India, 10-13 December 2020. ISBN: 978-1-7281-6916-3.
DOI: 10.1109/INDICON 49873.2020.9342183

Sri. P. Sudarshan Ray

Journal:

S. Sivaram, A. A. Chari, P. Vemulamma ,P. Sudarshan Ray ,Ch. D. V. Subba Rao and P.S. Rama Chandra Rao "An Optimal Modelling Wavelet Application for Ground Water Detection-A Programmatic Approach", International Journal of Engineering Research & Technology (IJERT), Vol. 10 No. 01, pp. 188-191,2021

S. Sivaram, P.Sudarshan Ray, A. A. Chari, Ch. D. V. Subba Rao , P. Vemulamma and P. S. Rama Chandra Rao, "Laser Radar with Improved Software Reliability Factor", International Journal of Engineering Research & Technology (IJERT), Vol. 10 No. 01, pp. 255-270, 2021

P.Sudarshan Ray , P.Vemulamma, S.Sivaram , A.A.Chari, Ch.D.V.Subba Rao and P.S. Rama Chandra Rao, "Radar Pulse Generation Example", International Journal of Engineering Research & Technology (IJERT), Vol. 10 No. 01, pp. 378-387, 2021

Sri. R. Gautam

Journal:

Gautam Rampalli, "A Survey on Techniques of Artificial Intelligence in Medicine", The International journal of analytical and experimental modal analysis, Vol. 12, No. 6, pp. 2240-2250, June 2020.

Sri. T. Mahesh Kumar

Conference:

Siripuri Kiran, U Vijay Kumar and T Mahesh Kumar, "A review of machine Learning algorithm on IoT Applications", International Conference on smart electronics and communication (ICOSEC 2020), Kongunadu College of Engineering and Technology, Trichy, 10-12 September 2020.

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ABSTRACTS

Title:	Sentimental analysis on healthcare tweets
Author:	Dr.P.Kamakshi

Abstract: In today's world variety of posting on social media offer huge information about the health issues, remedies, food and medication. Twitter is an online social networking service in which users can post their opinions about various topics and also cooperate with each other with messages known as "tweets". Tweets are very helpful in sharing the health related issues, medicines, hospitals information. Twitter helps the people to know about the disease symptoms, services and details about the hospital before they go for consultation. Sentiment analysis is a metric commonly used to investigate the positive or negative opinion within these messages. Sentiment analysis methods can be used in Twitter health care research. The analysis will help the users to better understand the alternative available. Sentiment analysis can also facilitate the healthcare industry to use reliable data for their growth by taking necessary measures. Sentiment analysis applies software to analyze the patient's tweets regarding their healthcare experiences regarding medicine, doctor, hospitals.It helps users as well as many healthcare organizations to understand their customers opinion and to take necessary measure to rectify the gaps. Ultimately, as more attention is given to such opinion analysis the health standard in the society will improve. Main aim of this paper is to build an algorithm that can accurately classify Twitter messages as positive or negative.

Title:	**Bo-Tree: An Efficient Search Tree**
Author:	Dr.Y.Bhavani , B.Kiran Kumar

Abstract: In today's world, large volumes of data are being generated through various automated data collection tools. Managing and processing of this data is time consuming task which demands an efficient search algorithm. In this paper, an efficient search tree named "BO-Tree", a Balanced "O" structure of the tree is introduced. Nodes in the BO-Tree are organized into various levels and each level is divided into sections for efficient searching of data. A Reference array is created and used to search for data in BO-Tree. Reference array stores a set of minimum and maximum values of each level and its sections along with their corresponding addresses in BO-Tree. BO-Tree is search efficient in all cases of time complexity, with the usage of Reference array, when compared with other existing trees.

Title:	**A Novel Multi-Objective Differential Evolution Algorithm for Clustering Data Streams**
Author:	Bhaskar Adepu, Jayadev Gyani and G. Narsimha

Abstract: A Few algorithms were actualized by the analysts for performing clustering of data streams. Most of these algorithms require that the number of clusters (K) has to be fixed by the customer based on input data and it can be kept settled all through the clustering process. Stream clustering has faced few difficulties in picking up K. In this paper, we propose an efficient approach for data stream clustering by embracing an Improved Differential Evolution (IDE) algorithm. The IDE algorithm is one of the quick, powerful and

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productive global optimization approach for programmed clustering. In our proposed approach, we additionally apply an entropy based method for distinguishing the concept drift in the data stream and in this way updating the clustering procedure online. We demonstrated that our proposed method is contrasted with Genetic Algorithm and identified as proficient optimization algorithm. The performance of our proposed technique is assessed and cr eates the accuracy of 92.29%.

Title:	Survey on Deadlock in Distributed database Systems
Author:	Dr. Y. Bhavani, Dr. K. Praveen Kumar

Abstract: In Distributed Database System (DBS) and multitasking system, the occurrence of deadlocks is one of the most serious problems. If a site request for a resource that is already in the another site which is waiting for another resource then the scenario is called as distributed deadlock. Different distributed environments require a suitable deadlock detection algorithm to detect deadlocks. Different distributed environments needs to maintain their platforms by avoiding deadlocks. To achieve this environment, it is required to fed with optimized deadlock detection and avoidance algorithms. In this article, different deadlock detection algorithms that uses Wait For Graph and resolution algorithms to trace out deadlocks were discussed. An optimization technique is used for resolving deadlock in an efficient manner. A comparison between different deadlock detection algorithms based on different parameters like, delay time, message size, number of messages and whether the algorithm detects false deadlocks or not were performed. Based on the comparisons, a few deadlock detection algorithms were suggested for the distributed environment.

Title:	An Efficient Sorting Algorithm for binary data
Author:	Dr. Y. Bhavani

Abstract: In this era of fast technological advancement, managing data is a major problem in the field of computer science. Many algorithms are developed to handle this task in which sorting of data is a basic requirement. Sorting of data is nothing but arranging a random set of data elements into sequential ascending/descending order. In this paper, we proposed an efficient sorting algorithm named bin_sort which is a short form of binary sorting. Bin_sort considers the binary version of the data elements to sort the data as its name indicates. Bin_sort performs an iterative recursive operation in time complexity of $O(n \log 2 n)$ to perform the sort operation on the data, which clearly indicates bin_sort is more efficient for binary data and on large input dataset than most of the existing sorting algorithms.

Title:	Image Segmentation based Hybrid watermarking Algorithm for copyright protection
Author:	Dr. Y. Bhavani

Abstract: Today, most of the information shared across the globe is in multimedia form like audio, video and image. With increased globalization, any type of such information can be broadcasted throughout the world easily and is accessible to multiple users for varied applications. This may lead to fraudulent claiming of data ownership which makes copyright protection a major priority in today's world. Digital Watermarking serves as a prime solution to copyright protection where we embed watermark into digital image which serves as an

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authenticator. In this paper, we proposed a hybrid algorithm using Image segmentation, SVD (Singular value decomposition), DWT (Discrete wavelet transformation), Homomorphic filtering and RSA encryption technique that helps to overcome various threats. Here, we proposed a new approach of digital watermarking by embedding two segmented watermarks which are obtained using two distinct threshold values on the original watermark. These threshold values are sent as secret keys to the receiver using Diffie-Hellman key exchange algorithm and can be used at the time of copyright verification. This approach of hybrid technique is being tested by applying Gaussian Noise and it gave the best results when compared with the other digital watermarking techniques.

Title:	An Optimal Modelling Wavelet Application for Ground Water Detection-A Programmatic Approach
Author:	P. Sudarshan Ray

Abstract: This paper analyses the wavelet signal for ground water detection using D8 algorithm by performing flow direction, volumetric analysis. The GPR radar is considered with depth ranging up to 30-50 meters. The simulated signal is generated using simulink, and specifications of various parameters are Spectral Reflectance, di electric constant, hydraulic conductivity are recorded to calibrate the location, depth, direction, volume of ground water. The observed values, experimental values, estimated values are plotted in a graph for accurate measurements

Title:	A Survey on Techniques of Artificial Intelligence in Medicine
Author:	Gautam Rampalli

Abstract: The complexity and rise of data in healthcare means that artificial intelligence (AI) will increasingly be applied within the field. Several types of AI are already being employed by payers and providers of care, and life sciences companies. The key categories of applications involve diagnosis and treatment recommendations, patient engagement and adherence, and administrative activities. Artificial intelligence in healthcare is the use of complex algorithms and software in another words artificial intelligence (AI) to emulate human cognition in the analysis, interpretation, and comprehension of complicated medical and healthcare data. Specifically, AI is the ability of computer algorithms to approximate conclusions without direct human input. In this paper I have discussed about AI in diagnosis and different algorithms used in comprehension of healthcare data.

Title:	A review of machine Learning algorithm on IoT Applications
Author:	T.Mahesh Kumar

Abstract: Worldwide Internet is emerging as a new model for communication and trade. Today, the Internet is only intended to modern visions but also the unquestionable cornerstone of the digital age. In factories, oil platforms, cars, trucks and trains IoT has grown up - a revolution in manufacturing processes that has changed for some time. Virtually all sectors - agriculture, air travel, mining, health care, electricity, transport, intelligent towns - have been entered into it, and so on. IoT is not just the next step of the Internet - the Internet as we know it is actually being reshaped. In this work analysis on how IOTs are used in real life. The complete study on IOT applications.

FACULTY INTERACTION WITH OUTSIDE WORLD

Dr. P. KAMAKSHI

1. One Week online FDP, "Data Science behind Natural language Processing", KITS-Warangal , 6th to 10th July, 2020.
2. Two days workshop, "Dev Ops", Kakatiya Institute of Technology and Science, Warangal (IT), 12th & 13th July 2020.
3. One Week Online FDP, " Artificial Intelligence Applications through Machine Learning", Balaji Institute of Technology and Science, 14-July-2020 to 18 July 2020 .
4. One Week Online FDP, "Data Science The future and New Technology", Balaji Institute of Technology and Science, 05-10-2020 to 09-10-2020.

G.K.SHAILAJA

1. 40 hours Online FDP, "Data Science for All", Electronics and ICT Academies-NIT Warangal, IITDM Jabalpur and NIT Patna, 27-07-2020 and 8-8-2020.
2. Two week FDP "ICT Tools for Technology, Learning Process and Institute", Ministry of Electronics and Information Technology.10-8-2020 to 21-08-2020.

Dr.T.Senthil Murugan

 1. NPTEL-FDP, (1 Week), "Data Science for Engineers", NPTEL-AICTE, Sep - Nov 2020.
2. One week FDP, "Data Science The Future and New Technology", Balaji Institute of technology and Science,05-Oct-2020 to 09-Oct-2020.
3. One Week STTP, "Demystifying Blockchain Technology & Cyber Security Threats". AICTE- Issues and Challenges, 16-11-2020 to 21-11-2020.
4. One Week STTP, "Cloud Based Data Engineering using AWS Architecture", AICTE- Vel Tech High Tech, 23-11-2020 to 28-11-2020.

B.Kiran Kumar

1. One Week online FDP, "Data Science behind Natural language Processing", KITS-Warangal , 6th to 10th July, 2020.
2. Two days workshop, "Dev Ops", Kakatiya Institute of Technology and Science, Warangal , 12 & 13 July 2020.

A.Bhaskar

1. One Week online FDP, "Data Science behind Natural language Processing", KITS-Warangal , 6th to 10th July, 2020.
2. Two days workshop, "Dev Ops", Kakatiya Institute of Technology and Science, Warangal, 12 & 13 July 2020.

Dr.Y.Bhavani

1. Three Week FDP, on "Data Science", Through Task, 01-07-2020 to 24-07-2020.

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2. One Week FDP, "Cloud Technology", ATAL- Vaagdevi College of Engineering, 7-09-2020 to 11-09-2020.

3. NPTEL-FDP, (1 .5 Week), "The Joy of computing using Python", NPTEL-AICTE, Sep-Dec 2020.

P. Sudershan Ray

1. One Week online FDP, "Data Science behind Natural language Processing", KITS-Warangal , 6th to 10th July, 2020.

2. Two days workshop, "Dev Ops", Kakatiya Institute of Technology and Science, Warangal (IT), 12 & 13 July 2020.

S.B.Swathi:

1. One Week online FDP, "Data Science behind Natural language Processing", KITS-Warangal , 6th to 10th July, 2020.

2. Two days workshop, "Dev Ops", Kakatiya Institute of Technology and Science, Warangal (IT), 12 & 13 July 2020.

M.Kishore:

1. One Week FDP, "Cloud Computing With Microsoft Azure" TCS, 22-7-2020 to 29-07-2020.

R.Gautam:

1. Three Weeks FDP, "Data Science", Task, 1-07-2020 to 24-07-2020.

2. One Week FDP, " , "Cloud Technology", ATAL- Vaagdevi College of Engineering, 7-09-2020 to 11-09-2020.

T.Mahesh Kumar

1. Three Weeks FDP, "Data Science", Task, 1-07-2020 to 24-07-2020.

2. One Week online FDP, "Data Science behind Natural language Processing", KITS-Warangal , 6th to 10th July, 2020.

3. Two days workshop, "Dev Ops", Kakatiya Institute of Technology and Science, Warangal (IT), 12 & 13 July 2020.

Dr.K.Praveen Kumar:

1. One Week FDP, " , "3D Printing & Design", ATAL- Maharshi Dayanand University, 23-11-2020 to 27-11-2020.

2. One Week online FDP, "Data Science behind Natural language Processing", KITS-Warangal , 6th to 10th July, 2020.

3. Two days workshop, "Dev Ops", Kakatiya Institute of Technology and Science, Warangal (IT), 12 & 13 July 2020.

K.Goutham Raju:

1. One Week FDP, "Current Research Trends in Computer Science and Engineering."Dept of CSE-KITSW, 29-07-2020 to 02-08-2020.

2. One Week STTP, "IoT Based Green Energy Systems" AICTE- B V Raju Institute of Technology, 14-15

9-2020 to 19-09-2020.

3. 5Day FDP, "Internet and Machine Learning" , NIT Warangal dept of CSE, 26-10-2020 to 30-10-2020.

4. 5Day FDP, "Emerging Research Trends in Computer Science and Engineering(ERTCSE-2020)", GMR Institute of technology, 19-10-2020 to 23-10-2020.

<u>**Events Conducted By Department:**</u>

S. No.	Title of the Event	Type of the Event	Resource Person	Date of event
1	"Data Science behind Natural Language Processing "	Faculty Development Programme	1.Mr.Sairam Uppugundla, Founder & CEO, CodeGnan IT 2.Dr. D. Mallikarjun Reddy, GITAM, Hyderabad	06.07.2020 to 10.07.2020
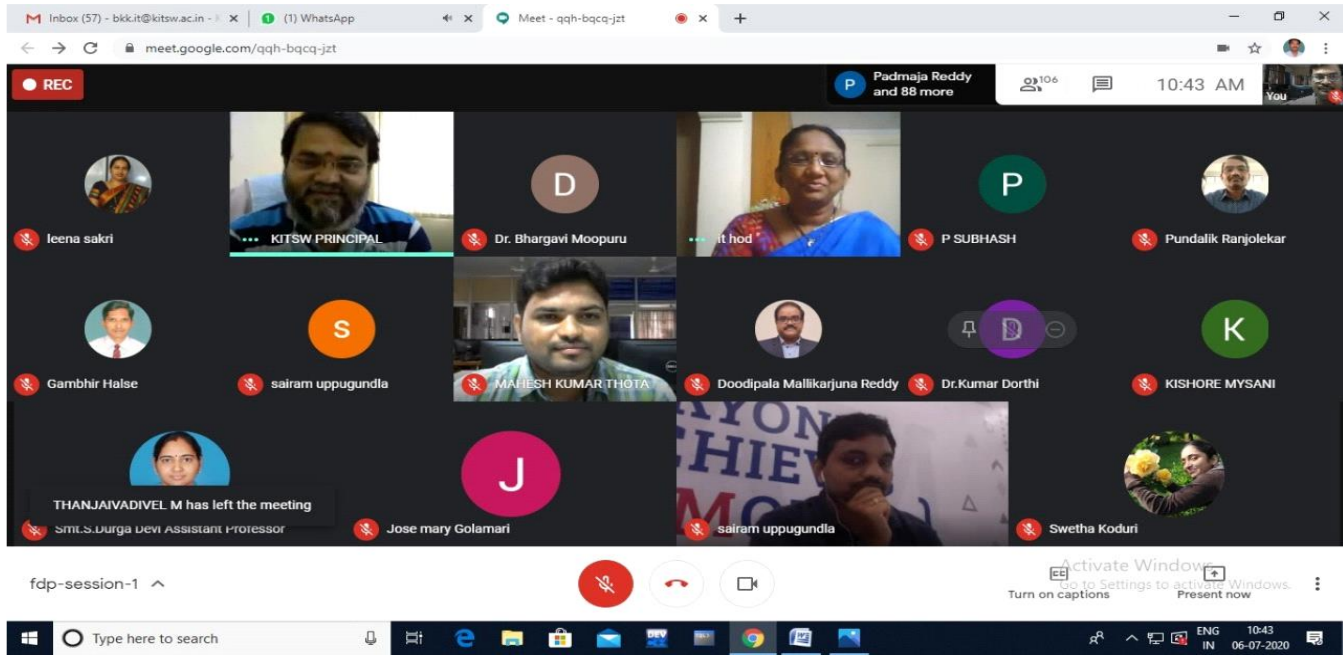
Department of Information Technology has organized one week Faculty Development Program on "Data Science behind Natural Language Processing " during 06.07.2020 to 10.07.2020. The resource persons for this FDP are Mr.Sairam Uppugundla, Founder & CEO, CodeGnan IT Solutions and Dr. D. Mallikarjun Reddy, Assistant Professor, GITAM, Hyderabad. More than 100 faculty members were registered for this faculty development program.

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S. No.	Title of the Event	Type of the Event	Resource Person	Date of event
2.	DevOps	Workshop	**Mr. Sanjay Gundu** Associate director, S&P Global Rating-Architect, GTC(Orion), Hyderabad.	12-07-2020 to 13-07-2020
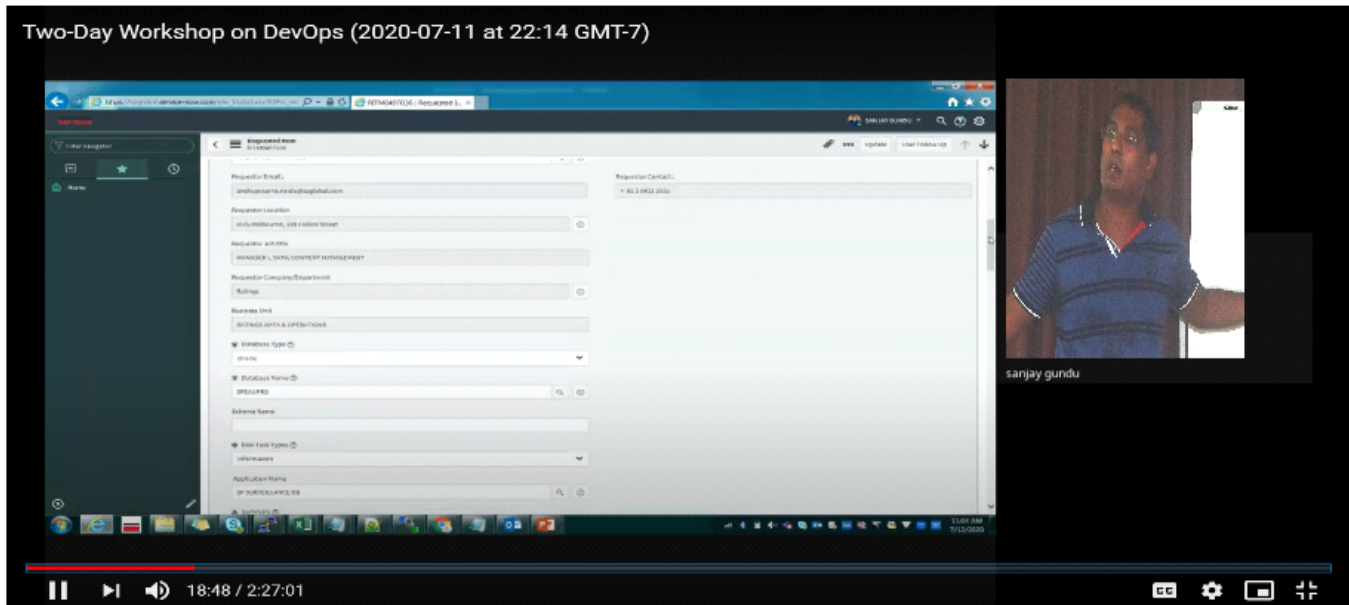
Department of Information Technology has organized a two day workshop on "DevOps" during 12.07.2020 to 13.07.2020. **Mr. Sanjay Gundu ,** Associate director, S&P Global Rating Architect, GTC(Orion), Hyderabad delivered the lecture about 95 faculty and students attended the workshop.

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Students Placements:

Roll Number	Name of the Student	Placed in Company – I	Placed in Company – II	Placed in Company – III
B17IT001	GUMADAVELLI ALERMEL SRAVYA	DXC Technology India Private Limited	Cognizant Technology Solutions India Private Limited	
B17IT002	MOHAMMAD AMAAN SAYEED	DXC Technology India Private Limited	Chubb Business Services India (CBSI)	TCS Digital
B17IT003	PATHEPURAM SAI PRAKASH REDDY	Modak Analytics LLP	TCS Digital	
B17IT004	GORANTALA VENKATA SAI HIMASRUTHI	Hexaware	Cognizant Technology Solutions India Private Limited	Infosys – TASK
B17IT006	BANDARI AJAY	Quadrant Resource		
B17IT007	GONGIREDDY SHERVITEJ REDDY	Cognizant Technology Solutions India Private Limited		
B17IT008	ELUGAM SANJANA	DXC Technology India Private Limited		
B17IT009	GOMARAM HARIVARDHAN	DXC Technology India Private Limited	TCS Ninja	
B17IT010	CHIDIRALA DIVYA REDDY	DXC Technology India Private Limited		
B17IT011	SRILEKHA ASODA	HCL		
B17IT012	GADEPALLY VSS PRADYUMNA	DXC Technology India Private Limited		
B17IT013	AITHA NANDITHA	HCL	Infosys – TASK	Accenture
B17IT016	KETHIREDDY SAI NIKHIL	Hexaware	Cognizant Technology Solutions India Private Limited	
B17IT017	BUKYA SWETHA	DXC Technology India Private Limited		

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B17IT018	SINDHU TALLAPALLY	Mindtree Limited	HCL	
B17IT019	SAI SRIKAR PUPPALA	TCS Ninja		
B17IT020	SYED SAGEER AHMED	Cognizant Technology Solutions India Private Limited	TCS Ninja	Accenture
B17IT023	DEEKSHITHA NAGABANDI	Cognizant Technology Solutions India Private Limited		
B17IT024	PULLURI SRINIJA	HCL		
B17IT027	KALLURU SUMAN KUMAR	PricewaterhouseCoopers (PwC)	HCL	Infosys – TASK
B17IT030	YATA SAI CHANDAN	DXC Technology India Private Limited	Cognizant Technology Solutions India Private Limited	Accenture
B17IT031	SAFFURA TASHFIN SOHA	Mindtree Limited	Accenture	
B17IT032	PABBA SPOORTHY SHIVANI	Chubb Business Services India (CBSI)	Hexaware	Cognizant Technology Solutions India Private Limited
B17IT033	DUGYALA VARSHINI	HCL		
B17IT034	ROHITH MALLELA			
B17IT035	KASARLA KAVYA SRI	DXC Technology India Private Limited	Cognizant Technology Solutions India Private Limited	
B17IT037	SREEJA PODISHETTI	DXC Technology India Private Limited	Cognizant Technology Solutions India Private Limited	Accenture
B17IT038	PINGILI GAYATHRI	DXC Technology India Private Limited	Cognizant Technology Solutions India Private Limited	Accenture
B17IT039	DANDABOINA SRI POOJITHA	Cognizant Technology Solutions India Private Limited		
B17IT040	BOURISHETTI AMULYA	Accenture	HCL	

B17IT041	NARANNAGARI TEJASWINI REDDY	DXC Technology India Private Limited	TCS Ninja	
B17IT042	KADIPAKA ANVITHA	DXC Technology India Private Limited		
B17IT043	SRIGNYA REDDY KOMANDLA	DXC Technology India Private Limited		
B17IT044	DASI RAGHURAM	HCL		
B17IT045	KALVA MAHESH	DXC Technology India Private Limited		
B17IT046	KANDUKURI SRIVIDYA	Infosys – TASK	Mindtree Limited	
B17IT047	PENUGONDA GAYATHRI	DXC Technology India Private Limited		
B17IT049	CHEEKATI SAI LOKESH	Cognizant Technology Solutions India Private Limited		
B17IT051	JAKKULA VAMSHI KRISHNA	TA Digital		
B17IT053	RAMAGIRI UDAY KUMAR	Chubb Business Services India (CBSI)		
B17IT054	SRIRANGAM MEGHANA	Cognizant Technology Solutions India Private Limited	Wipro through TalentNxt	
B17IT057	MALYALA ANUTEJ	TCS Ninja		
B17IT059	KONDRU SHARON SUCHARITHA	DXC Technology India Private Limited	Cognizant Technology Solutions India Private Limited	TCS Ninja
B18IT062L	SHIVANI BHEEMREDDY	Cognizant Technology Solutions India Private Limited		
B18IT064L	EKANSH GUPTA	APT Online		
B18IT066L	RAVULA PRANAY	Mindtree Limited	Capgemini	

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Faculty Contribution:

क्या है मां के दिल में?

नहीं चाहती वो धन दौलत

न ही चरणों का प्रणाम

चाहिए तो सिर्फ अपने परिवार की खुशियां और बच्चो का प्रेम

जब तुम उम्र की उस दहलीज पे आ जाओ जहां तुम दुनियादारी समझने लगो

एक बार फिर पीछे मुड़कर थाम लो हाथ मां का

कह दो मां से कि आज भी हर पल तुम्हारी जरूरत है

किताबें तो तुमने बहुत पढ़ी होगी,

एक बार करीब बैठ कर मां की आंखों को पढ़ने की कोशिश करो

ऐसे ही छेड़ दो उसे मजाक में कि

उसके होंठों पे मुस्कान आ जाये

कह दो उससे कि मां आज भी तुम बहुत खूबसूरत हो

फिर से शर्मा जायेगी वो

क्योंकि मां भी कभी जवान थी

आज भी उसके दिल में एक लड़की का दिल है

कह दो, जो है आज तुम्हारे दिल में

कहीं देर न हो जाये ,ये पल दूर न हो जाये.......

By

Dr.P.Kamakshi
Professor & Head,
Dept. of I.T.

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<u>नया साल</u>

पूरा साल बीत गया तुम्हारे इंतजार में

मुंह छुपा कर जी रहे थे नकाब में हम

दोस्तों से हाथ मिलाना भूल गए हम

आंखों से बातें करना सीख लिया

दूरियां बनाते बनाते न जाने कब

इंसानियत की रिश्तों में भी दूरी आ गई

२०२० ने तो जीने का अलग तरीका ही सीखा दिया.

नई उम्मीदों से भरपूर तुम आ गए हो

दिल के कुछ अरमान हमारे पूरे कर दो

खुली हवा में सांस लेने की फिर से इजाजत दे दो

२०२१ कुछ ऐसा चमत्कार कर दो

पल पल डर के बजाय खुशहाली से जीना सिखा दो.....

By

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ARTICLES

TECHNOLOGY TO COMBAT COVID

Nanotechnology-based disinfectants and sensors for SARS-CoV-2:

NANOTECHNOLOGY-Based antimicrobial and antiviral formulations can prevent SARS-COV-2 viral dissemination, and highly sensitive biosensors and detection platforms may contribute to the detective and diagnosis of covid 19.

Since the outbreak of severe acute respiratory syndrome corona virus(SARS-CoV-2)with the disease referred to as novel Corona virus disease. Consequently, we propose that nanotechnology could have a closer impact on the current pandemic when implemented in two different areas.

State of the Art of Rapid Testing Approaches For SARS-Cov-2:

Currently, CT imaging, haematology tests and molecular methods based on viral genetic measurements are the primary tools used for clinical diagnosis of COVID-19, together with the identification of clinical symptoms to confirm infection. Rapid detection approaches could usher in an era of point-of-care testing (POCT) or in-field screening of viruses. shows the two main testing approaches that are currently being used for COVID-19 globally: nucleic acid testing and antibody testing.

Nucleic acid (RNA)Testing:

Many laboratory-based molecular diagnostic kits have been developed by disease control organizations, research institutes and private companies and used for testing patients' specimens since the beginning of COVID-19 pandemic . Polymerase chain reaction (PCR)-based nucleic acid testing looks for viral RNAs in upper respiratory specimens (throat and/or nasal swabs) from an individual.

◇Consequently, researchers from the University of Maryland, USA, developed a colorimetric assay based on gold nanoparticles capped with suitably designed thiol-modified DNA antisense oligonucleotides specific for N-gene (nucleocapsid phosphoprotein) of SARS-CoV-2, which were used for diagnosing positive COVID-19 cases within 10 min from the isolated RNA sample.

Antibody testing:

Testing for antibodies in the patient's blood is another modality for COVID-19 detection. Antibody test kits are usually designed for the qualitative detection of IgM and/or IgG antibodies to SARS-CoV-2 in a given serum, plasma (EDTA, citrate) or venipuncture whole blood specimen from a patient. The lateral flow test strip (LFTS) or lateral flow immunoassay (LFIA) is widely used for this purpose. This is a simple cellulose-based device employing chromatographic lateral flow which is intended to detect the presence of a target analyte (antibody to SARS-CoV-2) in a liquid sample

(blood/serum/plasma, etc.) without the need for specialized and costly equipment – although lab-based equipment can be used to achieve higher sensitivity.

"REASSURED" biosensors for virus detection:

To mitigate the global spread of the COVID-19 pandemic, low-cost, fast, reliable, and sensitive detection methods are still in great demand to screen for the disease in field and at point-of-care and for the immunity among large populations.

To summarize, the criteria now known by the acronym ASSURED (Affordable, Sensitive, Specific, User-friendly, Rapid, Equipment-free, Delivered), as coined by the WHO in 2004, should represent the guidelines to be followed in building a strong health care system . With rapid advances in digital and mobile health technology, so-called REASSURED (Real-time connectivity, Ease of specimen collection, Affordable, Sensitive, Specific, User-friendly, Rapid and Robust, Equipment-free or simple and Environmentally friendly, Deliverable to end-users) diagnostic systems could be established to strengthen health care systems and improve patient outcome.

Finally, Rapid detection strategies are key to the prevention and management of potential and management of potential future epidemics.

New smart sensing approaches that combine the ultra high sensitivity of biosensors with advances in artificial intelligence and the Internet of Things can help to provide better control of any potential spread of diseases .The present pandemic will clearly contribute to the definition of goals for agendas in interdisciplinary science in the near future.

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BLOCKCHAIN TECHNOLOGY

Blockchain was first introduced in 1991 and later got popular in 2008 due to transactions of cryptocurrency and this was conceptualized by Satoshi Nakamoto in 2008.

A blockchain is a peer-to-peer ledger technology. Which is an immutable, decentralized, encrypted, distributed ledger technology. The individual records are called blocks, are linked together in single list called a chain. Blockchains are used for recording transactions made with cryptocurrencies, such as Bitcoins. Each transaction added to a blockchain is validated by multiple computers on the interneticalled as miners). These systems form a peer to peer network.

The main contents of blocks are INDEX, TIME STAMP, HASH, PREVIOUS HASH, DATA, NONCE.

1. Index is the position of a block in blockchain. Index of genesis block is "0"

2. Particular block created was indicated by using Time stamp.

3. 3. Every transaction or data in a blockchain has a value and the value of the transaction or data was indicated by Hash.

The well know applications of blockchain technology are cryptocurrencies, advertising, real estate, health care, voting, insurance, media, taxes, etc……Cryptocurrency is the most well-known use of Blockchain. By implementing blockchains parties are able to transact with each other rather than the involvent of any third party persons, organizations etc…. Blockchains can also be used in making advertisments. Blockchain can potentially eliminate the traffic control of any other websites. Using blockchain producers and the consumers can be connected directly through a decentralized system. The health records of patients can be securely stored in a blockchain. Blockchain technology can be used to create a permanent, public, transperent ledger system for compiling data on scales, tracking digital use and payments to content creators, such as wireless users etc... a decentralized system. The health records of patients can be securely stored in a blockchain. Blockchain technology can be used to create a permanent, public, transperent ledger system for compiling data on scales, tracking digital use and payments to content creators, such as wireless users etc…

In 2017, IBM partnered with ASCAP and PRS for music to adopt blockchain technology in music distribution. New distribution methods are available for the insurance industry such as peer to peer insurance, parametric insurance and micro-insurance following the adoption of blockchain. Quorum-a permissionable private blockchain by JPMORGAN CHASE with private storage, used for contract applications. Currently blockchain are of 4types: Public blockchains, Private blockchains, Consortium blockchains and Hybrid blockchains. Public blockchain has absolutely no access restrictions. Anyone with an internet can send transactions to it as well as become a validator for miners who verify the transactions or the written data). A private blockchain is permissioned. One cannot join it unless invited by the network administrators. Participant and validator access is restricted. Hybrid blockchain has a combination of centralized and decentralized features(public and private). Consortium blockchains are the chains that are only used by the certain organisations or a company to store the privacy data of their employers as well as the data considering their organisation or a company. This blockchain is of private blockchain too. Transactions are saved to linked blocks that form a digital, encrypted ledger. Blockchain technology cannot be hacked practically due to interlinked miners work on the same data. Blockchain technology is being piloted in various different fields, and in the future, blockchains are likely to be utilized in a much wider scale in 2017, IBM partnered with ASCAP and PRS for music to adopt blockchain technology in music distribution. New distribution methods are available for the insurance

industry such as peer to peer insurance, parametric insurance and micro-insurance following the adoption of blockchain. Quorum- a permissionable private blockchain by JPMORGAN CHASE with private storage, used for contract applications. Currently blockchain are of 4types: Public blockchains, Private blockchains, Consortium blockchains and Hybrid blockchains. Public blockchain has absolutely no access restrictions. Anyone with an internet can send transactions to it as well as become a validator for miners who verify the transactions or the written data). A private blockchain is permissioned. One cannot join it unless invited by the network administrators. Participant and validator access is restricted. Hybrid blockchain has a combination of centralized and decentralized features(public and private). Consortium blockchains are the chains that are only used by the certain organisations or a company to store the privacy data of their employers as well as the data considering their organisation or a company. This blockchain is of private blockchain too. Transactions are saved to linked blocks that form a digital, encrypted ledger. Blockchain technology cannot be hacked practically due to interlinked miners work on the same data. Blockchain technology is being piloted in various different fields, and in the future, blockchains are likely to be utilized in a much wider scale.

Each party or node in a blockchain maintains a copy of this immutable ledger. Consensus among the parties is achieved by using, for example, proof-of-work.

Blockchains can be permissionless or permissioned. Permissionless, public blockchain systems allow anyone to join the blockchain, whereas permissioned, private blockchain systems use membership control to allow only identified parties to join. In public blockchains, anyone can read or write data, but while reading is free, writing to a blockchain requires paying a fee in cryptocurrency. The fee will be paid to a miner who first completes the proof-of-work to secure a new block containing the transaction data. In private blockchains, the owner of the blockchain can decide on the transaction fees. Blockchains can be used to eliminate the need for trust among the parties sending transactions to each other. All transactions are visible in the distributed ledger and tampering the transaction history would require the malicious party taking control of the majority (51%) of the blockchain network's mining hash rate.

Ethereum is the most popular permission less blockchain that allows writing of smart contracts on the blockchain. Smart contracts consist of contracts or business logic that are installed on the blockchain system. Parties in the blockchain can execute smart contracts to create different transactions that are then validated by other parties and saved to the blockchain. There are several different platforms for building permissioned, private blockchains. Some of the most widely used are Hyperledger and R3's Cord. Private blockchains are meant to allow saving sensitive data to a blockchain so that only selected parties are able to view it. However, it is possible to save encrypted, private data also to a public blockchain.

Since public blockchains use computationally more expensive consensus protocols and have more nodes, private blockchains can potentially offer better scalability and faster transactions. However, private blockchains are not truly decentralized and, for example, Hyperledger Fabric was found at least in 2019 to have issues with network delays causing desynchronization in the blockchain.

There has been a lot of interest in the possibilities of blockchain technology, and hopes of revolutions in many different areas such as finance and Internet of Things (IoT). Blockchains can provide secure ways to manage confidential data and identity information, and thus provide potential use cases also in health care. However, so far there are only a few fully operational blockchains besides systems related to cryptocurrencies and Bitcoin remains the most successful real-world application of blockchain technology. Ethereum was the first blockchain to support the implementation of smart contracts, which enable building decentralized applications (dapps) on Ethereum blockchain. There are various potential use cases for dapps and plenty of tutorials on dapp development available online. Most dapps have practically no users or transactions. On 9th of June 2020 on DappRadar, the list of Ethereum dapps showed over 1880 dapps, but only 330 had at least one user during the

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previous seven days. All Top Ten dapps (based on user count during the previous seven days), save one, were related to money exchange, high risk investments and decentralized finance. There are some gaming applications on Ethereum (e.g. CryptoKitties, My Crypto Heroes), but most dapps appear to be related to finances and gambling. In Deloitte's Global Blockchain survey 2019, 53% of organizations saw blockchains as critical and being in top five of their priorities. In the same survey one of the top five "organizational barriers to greater investment in blockchain technology" was the lack of in house capabilities. As the need for blockchain professionals is likely to grow in the future, in Finland a project has been launched to provide education on blockchain technology in universities. Supply chains are one area where the use of blockchain technology can potentially streamline the process and reduce paperwork besides creating a transparent, immutable record of the product history. However, Gartner's report (2019) estimates that "contrary to initial market hype and for the time being, blockchain is not enabling a major digital business revolution, and may not enable one until at least 2028". This is due to several factors that currently make it challenging for organisations to adopt blockchain technology.

In a blockchain system, there is overhead from replicating the data. For example, in Ethereum, those users that host the full node need approximately 180 GB disk space. However, not all users need to download the full node, as there are also light nodes that store only the transaction headers and are able to request other information from full nodes. Light nodes can be used, for example, in mobile phones or embedded devices. Peker et al. (2020) studied the cost of saving IOT sensor data to Ethereum blockchain. In their experiment the cost of storing 6000 data points (256-bit integers) was approximately 335-467 US dollars depending on the method used. According to other informal estimates, the cost of storing IKB of data to Ethereum blockchain would have been approximately 1.6 US dollars in 2018, and the storage of IGB was over 1.6 million US dollars. According to (2020) "the cost of storage on a public blockchain platform can be staggering, a few thousand times higher than on a distributed database system or in the cloud. On a permissioned blockchain system, the cost is likely to be less but still one or two orders of magnitude higher."

Due to mining being computationally expensive, public blockchain systems consume more energy than regular distributed databases. Bitcoin mining is notoriously energy consuming, and sustainability issues are one area where more research is needed. The popularity of Bitcoin and other cryptocurrencies has also led to different scams related to cryptocurrencies, and for example, infected websites harnessing visitors' computers to mine Bitcoin.

Continuation, In their article Kumar et al. (2020) suggest that "blockchain technology should be deployed selectively, mainly for inter-organizational transactions among untrusted parties, and in applications that need high levels of provenance and visibility." For example, tracking the origin and shipping of precious gemstones or other expensive or critical commodities is one area where blockchain systems have been trialled. Regarding supply chains, major challenges for using blockchains include creating legislation and standards all parties can agree on, and getting everyone to use blockchain technology despite additional costs. Joining a consortium is usually necessary to properly utilize blockchains. To conclude, as blockchains are today a high-cost and high-overhead storage method, careful consideration is needed to determine the proper use cases. Also, a decision should be made on what data to store to the blockchain, as it might be feasible to store only the most critical parts of the whole data to save resources. Blockchain technology is being piloted in various different fields, and in the future, blockchains are likely to be utilized in a much wider scale. Cannot be hacked practically due to interlinked miners work on the same data. Blockchain technology is being piloted in various different fields, and in the future, blockchains are likely to be utilized in a much wider scale.

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VIRTUAL REALITY(VR)

Virtual Reality refers to a high-end user interface that involves real time simulations and interactions through multiple channels. It indicates the feel of an imaginary world rather than a real one. The imaginary World is a simulation running in the computer. Virtual Reality allows a user to interact with a computer simulated environment. It is sometimes referred to as immersive multimedia, in a computer stimulated environment than could recreate even the sensory experiences including virtual taste, smell, sight, sound, touch etc. Scientific Visualization provides the researcher with immediate graphical feedback during the course of the computations and gives him/her the ability to interact. Interaction can vary from looking around to modifying the world. The history of virtual reality goes through the 1950s, when a cinematographer named Morton Heilig built a single user console called Sensorama. This enabled the user watch television in three dimensional ways. In 1961, Philco Corporation Engineers developed the first Head Mounted Display (HMD) known as the Headsight. In 1965, Ivan Sutherland envisioned the Ultimate Display. Then began the commercial development of virtual reality and the first VR entertainment system Virtuality was released.

Virtual Reality Systems are divided into three groups: -
1) Non immersive systems through which you can see the real world, presented via computer.
2) Augmented Reality which lets you stay in the real world but see simulated objects.
3) Immersive Systems which help you see the simulated world and be in that simulated world.

There are a set of devices used in VR systems like Head Mounted Display(HMD), Cave Automatic Virtual Environment(CAVE), Data gloves, Data suits, 3D Mouse and Space ball, Motion Trackers, Binocular Omni Orientation Monitor(BOOM), Real time audio and video inputs etc. Virtual Reality is being used in a number of ways by the business community which include Virtual tours of a business environment, Training of new employees and a 360-degree view of a product. Virtual Reality Environments have been used for training simulators like flight simulators, battlefields simulators for soldiers, paratrooping etc. VR is widely used in Engineering and Designing process. It gives better understanding of the design and facilitates changes wherever necessary. It helps in reducing the time factor in building constructions and car designing. Healthcare is one of the biggest adopters of Virtual Reality which encompasses surgery simulations, phobia treatments, robotic surgeries and skill training. It also finds its application in nursing, dentistry, health issues for the disabled etc. The entertainment industry is one of the most enthusiastic advocates of virtual reality, most noticeably in games and virtual worlds like virtual museums, gaming and virtual theme parks. Virtual Reality Technology faces a number of challenges most of which involve technical matters and simulation sickness due to virtual reality. Users might become disoriented in a purely virtual environment, causing balance issues. Virtual Reality is a growing industry. Specialized hardware is getting faster, better and cheaper because of development in VR. There is a huge demand for Virtual Reality Modelling Language (VRML) In the near future.

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Faster and smarter insights Hardness the power of AI

Artificial Intelligence (AI), a field in Computer Sciences which deals with the advancement of clever robots that deal with solving problems that ordinary humans otherwise can't. For decades, AI is a hot topic among debates whether its existence causes a potential threat to the survival of mankind or helping the development of mankind. As of today, sub-topics of AI such as Machine Learning, Neural Networks are gaining prominence as they show promising results rather than hardcoded AI which searches its database created by Humans to tackle a problem. An AI is said to be developed only when it thinks and writes its code to develop itself. On the other hand, Robotics is being developed to provide the necessary body for AI. Philosophically, the purpose of AI and Robotics is to provide brain and body for a Supreme Intelligent Being respectively. While a lot of people argue that development in these fields is going to cause destruction, others believe otherwise.

Development in the AI field is surely going to help humans explore the endless possibilities which are limited by human brains. The advantage of computers is that they calculate faster than that of Human. And finding the best possible solution for a problem can be made by bruteforcing all the possible solutions and filtering the best one out of them, which computers are extremely good at. Combining the computational speed, ability to develop on its own and a physical form to exist in the physical world results in the desired Supreme being mentioned earlier. Not all the desired outputs require 2 hands and 2 legs, the advantage that robotics offer is that the physical form can be of any shape that we desire. This gives us the flexibility to attain greater heights and greater depths than we can ever go.

Development is not only seen in classical computers but there is a rise in Quantum computers as well. Unlike ordinary computers which use binary language (namely, 0s and 1s), a quantum computer uses trinary language (0s, 1s and 2s) which creates an intermediary data state that only Quantum computers can access which will be able to bypass all the security measures that today's Cryptic world contains. The power of AI which is harnessed by the classical computers is already huge, combining Quantum computing and AI is the combo that no one can ever break, at least which a Human can never break and the possibilities of exploring can never be ended.

Ultimately an AI is just another clever Algorithm capable of coding itself, but if there is a flaw in its recreation of the Algorithm, that is when disasters tend to happen. As a computer program follows its algorithm strictly, a flaw in its algorithm implies a flaw in its behaviour. Though a fully developed algorithm can avoid such problems, a developing AI is certain to do them. Unfortunately, the developing stage is inevitable. One such practical problem is that "If we order the AI to make earth better, in some deep logical steps, Humans pollute the earth. So Humans must be eliminated causing the Annihilation of species." This may sound like a cool movie concept, but it is a possibility that humans are afraid, we may not be able to think all the ways that computers do to find the possible thinking ideas that cause Human destruction which raises a potential problem for us in development.

Ordinary Human IQ increases over generations which is an extremely slow process and a constant graph is a suitable candidate for the expression. On the other hand, the IQ of AI increases exponentially and can think of ways that are even hard for us to imagine. Again population of

Humans is huge. To connect the dots, we are as same as ants for AI. A chimpanzee is also considered a clever being and a study from MIT suggests Humans are intelligent than chimpanzees only by a little margin. Yet we created satellites that chimpanzees couldn't. One must not forget that we are in the quest of developing a supreme intelligence that Humans can never overtake. And the possibility that an ever-growing intelligence is going to be an imminent threat. Though there are attempts to enhance the human brain by injecting chips, is it going to be enough?

AI can be considered a Ladder that is taller than us but helps to go to heights, intelligence is always a game that is dangerous to play. A subsidiary of Microsoft, GitHub recently launched a product called co-pilot which helps coder code quickly using AI. The wow factor in the product is that the code that AI generates is not based on the database, it creates a code from the instructions a coder gives it. It is a product that developers love to use but are afraid of the consequences. The most difficult interview questions require a developer to think for at least 5 minutes and code for at least 10 minutes, co-pilot completes it in under 2 seconds. Today co-pilot may not be able to create a complete web app or software app, but it is a scary start to replace software developers with Artificial Intelligence. Also, the software can cost beneficial to companies that urge them to replace humans with AI. Unlike humans, AI can never get tired and can work all day.

Overdevelopment inside the field is also problematic as they will be replacing manual labour with AI ultimately causing poverty. The future of the Human race is going to be uncertain unless there is a biological development in Humans as well. Considering the growth of AI, there is no time for evolution and biological development must take place artificially. The irony is that the development of neural chips is also created by AI.

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OPEN SOURCE CONTRIBUTION - GitHub

Open-source is a software or project whose code is publicly available to use, alter and modify. People get to work on the code base and they can modify it (depending upon the licenses). These softwares are readily available and free to use and access. Open source contribution involves contributing to the improvement and development of open-source software. There are some popular Open-source softwares like Android, Mozilla Firefox, Chromium, Linux Operating system, VSCode IDE, Wordpress Content Manager System, etc. Open-source is a great way to get real-world software development experience from the comfort of your home.

From a beginner's point of view, we all use Open-source every day, possibly without being aware of it. Interestingly the code that resulted in the first manned mission to the moon is also open-sourced (i.e., Apollo 11).

Have you ever thought about huge projects or softwares that we use? Do you think these projects are contributed by a single developer? The answer is NO. The software would not have so many features and updates if that was the case. These projects are contributed by many developers across the world and they help to develop and improve the software for each and every person who uses it. Apart from the impact that you get to create, it also helps you become a better developer and with time a good mentor, leader, and passionate team player.

There are many Open-source organizations. **GitHub** is the most popular one among them. GitHub is a code hosting platform for collaboration using the Git Version Control System. It is used by most commercial as well as non-commercialprojects across the world.

What Is GitHub?

GitHub is a git-based repository management platform that is the most popular in the world. GitHub is a hosting site where developers and programmers can upload the code they create and work collaboratively to improve it. A defining feature of GitHub is its robust version control system. The version control system allows the coders to improve the software potentially by fixing bugs or improving efficiency without affecting the software and risking the experience of any current users. Proposed changes can be easily merged into the live software after the proposals are reviewed and approved.

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GitHub can integrate with common platforms and services such as Amazon, Google Cloud, and Code Climate. It can highlight syntax in more than 200 different programming languages. GitHub functions as a sort of social media site for developers and programmers. It allows your work to get out in front of the public. It is one of the largest coding communities around, so using it can provide wide exposure for your project.
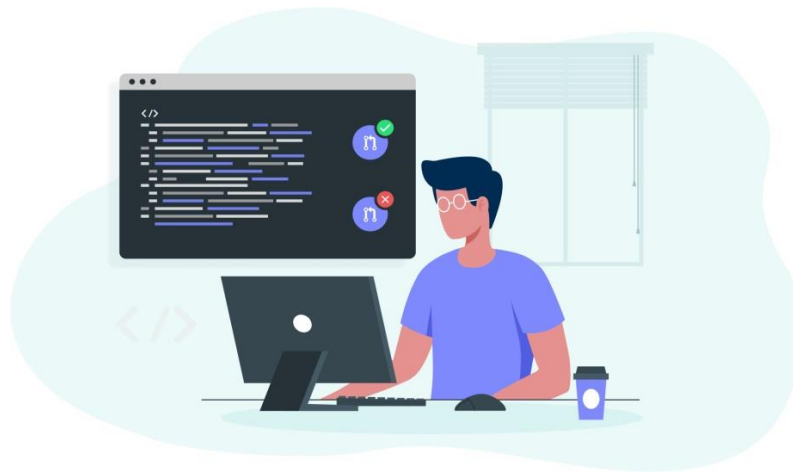
If you have already done some projects, open-sourcing your projects might be a good way to get started. You can put it on GitHub and seek contributions from thecommunity. This will not only add value to your project but will also help you to collaborate with many developers around the world.

Many widely-used frameworks and libraries were open-sourced by individual developers. Several people started collaborating and maintaining these projectsafter the projects got popular.

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