Department of Information Technology

Presents...

A Technical Magazine

BITWISE
MAGAZINE
DEPARTMENT OF INFORMATION TECHNOLOGY

Issue 9, May 2020

Final Year passed out batch (2019-20) of B.Tech students Group Photo with Faculty

KAKATIYA INSTITUTE OF TECHNOLOGY & SCIENCE

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

కాకతీయ సాంకేతిక విజ్ఞాన శాస్త్ర విద్యాలయం, వరంగల్ – ౫౦౬౦౧౫.

KITSW

<u>Editorial Board</u>

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.	Name of the Student	Roll Number
1.	M.Niharika	B16IT028
2.	D.Preethika	B16IT040
3.	J.Archana	B16IT050
4.	K.Shivani	B16IT009

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(An Autonomous Institute under Kakatiya University, Warangal.)

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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.

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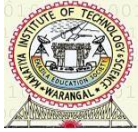DEPARTMENT OF INFORMATION TECHNOLOGY

Kakatiya Institute of Technology & Science, Warangal

(An Autonomous Institute under Kakatiya University, Warangal.)

DEPARTMENT OF INFORMATION TECHNOLOGY

Dr.P.Kamakshi
Head of the Department

Message

It gives me an immense pleasure to present ninth 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. The Department offers a four year course of B.Tech. Degree in the Information Technology, with an annual intake of 60 students. The Department has got NBA accreditation from June 2016. The Hallmark of I.T. Department is to develop technologically competent IT professionals in today's IT centered scenario. The strength and facilities of the department are increasing year by year. Well qualified experience and committed faculty members is an asset to the Department. The Department has well equipped laboratories and WI-FI support to cater the needs of the students. The Department conducts National level technical symposium in every academic year and organizes several training programs 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.

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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Kakatiya Institute of Technology & Science, Warangal
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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.

Kakatiya Institute of Technology & Science, Warangal-15
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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.	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.	K.Shailaja	Jr. Assistant
4.	K.Mahender	Attender

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Research Publications of faculty :

Dr. P. Kamakshi

Journal:(Scopus Indexed)

1. Dr. P.Kamakshi," Sentimental analysis on healthcare tweets", Indian Journal of Public Health Research & Development, Volume 11,Issue6 , pp 567-569, Print-ISSN: 0976-0245-Electronic-ISSN: 0976-5506,Scopus indexed

Conference(National)

1. Dr.P.Kamakshi, G.A.Sravya, G.V.S Himasruthi, Rachamalla Sriyanaga " A Survey Report On Iot And Its Security Challenges" 3rd National Conference on Futuristic Areas in Computer Engineering and Technology (FACET 2020), pp. 1-5, 20-21 January 2020.

G.K.Shailaja

Journal:(UGC Listed)

1. G.K.Shailaja, Dr.C.V.Guru Rao "Opposition Intensity-Based Cuckoo Search Algorithm for Data Privacy Preservation", Journal of Intelligent Systems, ISSN:0334-1860 Vol-29, Issue-1, pp. 1441-1452, June (O)2019, Jan(P) 2020.

2. G.K.Shailaja, Dr.C.V.Guru Rao, "Privacy Preservation in Data Mining: Algorithmic Analysis on Opposition Intensity-based Cuckoo Search Algorithm by varying Scaling Factor", International Journal of Research in Electronics and Computer Engineering(IJRECE), | ISSN: 2348-2281 , Volume 7,No. 2 (APRIL- JUNE 2019),pp.3300-3306,June 2019.

3. G.K.Shailaja, Dr.C.V.Guru Rao, "Comparative Analysis on New Variant DE and CSA: Privacy Preservationin Data Mining", American International Journal of Research in Science, Technology, Engineering & Mathematics(AIJRSTEM), ISSN: 2328-3580,Volume 1, No.27,pp.13-19, August 2019.

B. Kiran Kumar

Journal:*(UGC Listed and SCOPUS Indexed)*

1. B. Kiran Kumar, Dr. Jayadev Gyani and Dr. G. Narsimha, "Class Imbalance Reduction (CIR): A Novel Approach to Software Defect Prediction in the Presence of Class Imbalance", Symmetry, Volume 12, Issue 3, 407 (2020) pp. 1-14, doi:10.3390/sym12030407 (Impact Factor: 2.143) (SCIE Indexed)

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A.Bhaskar

Journal:(UGC Listed and SCOPUS Indexed)

1. A.Bhaskar, Dr.JayadevGyani, Dr. Narasimha G, "An improved differential evaluation algorithm for data stream clustering", International Journal of Electrical and Computer Engineering (IJECE)", ISSN 20088-8708, Vol.9, No.4, pp.2659-2667, August 2019.

 Y.Bhavani

Conferences*:*

1. Y.Bhavani, B.Jaya Krishna " Security Enhancement Using Modified AES and Diffie–Hellman Key Exchange" in 5th Springer International Conference CICT-2019, pp. 173-184, November 2019.

2. Y.Bhavani, Sai Srikar Puppala, B.Jaya Krishna, Srija Madarapu, Modified AES using Dynamic S-Box and DNA Cryptography, 3rd International Conference on IoT in Social, Mobile, Analytics and Cloud (ISMAC 2019) , pp. 74-78, 12-14 December 2019.

3. Y.Bhavani, Sai Srikar Puppala , Spoorthy Shivani Pabba, Kavya Sri Kasarla, Kadipaka Anvitha, Survey On Digital Watermarking, 3rd National Conference on Futuristic Areas in Computer Engineering and Technology (FACET 2020), pp. 1-5, 20-21 January 2020.

4. Y.Bhavani, Y.Maneesha, D. Sri Poojitha, K. Srividya, Shervitej Reddy, Survey On Chatbot 3rd National Conference on Futuristic Areas in Computer Engineering and Technology (FACET 2020), pp. 21-25, 20-21 January 2020.

5. Y.Bhavani, Sharon Sucharitha Kondru, Srignya Reddy Komandla, Divya reddy Chidirala, Grid Computing Security Issues And Challenges, 3rd National Conference on Futuristic Areas in Computer Engineering and Technology (FACET 2020), pp 61-65, 20-21 January 2020.

6. Y.Bhavani, Neha Naz, Mohammad Aman, Srirangam Meghana, Review on Digital Learning Technology and Its Tool, 3rd National Conference on Futuristic Areas in Computer Engineering and Technology (FACET 2020), pp 90-94, 20-21 January 2020.

7. Y.Bhavani, B.Jaya Krishna " Security Enhancement Using Modified AES and Diffie–HellmanKeyExchange" in Springer with ISSN 475874_1_EN_15_Chapter_Typeset_ November 2019.

 R. Gautam

Journal:(UGC Listed)

1. K. Praveen Kumar, Gautam Rampalli, "An Efficient Design for Multiple Data Stores Cloud Applications", International Journal of Innovative Technology and Exploring Engineering (IJITEE), ISSN: 2278-3075, Volume-8 Issue-9S3, Pg. no. 338-342, July 2019.

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2. Gautam Rampalli, "A Survey on techniques of Artificial Intelligence in Medicine", The International journal of analytical and experimental modal analysis, ISSN NO:0886-9367, Volume XII, Issue VI, Pg. no. 2240-2250, June/2020.

Conference:

1. K. Praveen Kumar, Gautam Rampalli, "Cloud Computing Security in the Aspect of Blockchain", International Conference on Cybernetics, Cognition and Machine Learning Applications (ICCCMLA), ISBN: 978-981-15-1632-0, Pg. no. 309-314, 16-17 August 2019 - Springer

T. Mahesh Kumar

Conferences:

1. T.Mahesh Kumar ,Mohammad Amaan, Sai Srikar Puppala, Pingili Gayathri "Survey On Crowdsourced Testing", 3rd National conference on Futuristic Areas in Computer Engineering and Technology Organized by KITS, Singapuram, Jan 2020 ISBN :978-93-5396-923-3.

2. T.Mahesh Kumar ,Siripuri Kiran, Ankam Praveen " An overview on security towards IoT and wireless sensor networks", 2nd International conference on cognitive informatics & soft computing Organized by AITS, Rajampet, April 2019.

Dr.K.Praveen Kumar

Journal:(UGC Listed)

1. K. Praveen Kumar, Gautam Rampalli, "An Efficient Design for Multiple Data Stores Cloud Applications", International Journal of Innovative Technology and Exploring Engineering (IJITEE), ISSN: 2278-3075, Volume-8 Issue-9S3, Pg. no. 338-342, July 2019.

Conference:

1. K. Praveen Kumar, Gautam Rampalli, "Cloud Computing Security in the Aspect of Blockchain", International Conference on Cybernetics, Cognition and Machine Learning Applications (ICCCMLA), ISBN: 978-981-15-1632-0, Pg. no. 309-314, 16-17 August 2019 - Springer

ABSTRACTS

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

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:	Opposition Intensity-Based Cuckoo Search Algorithm for Data Privacy Preservation
Author:	G.K.Shailaja, Dr.C.V.Guru Rao

Privacy-preserving data mining is a novel approach that has emerged in the market to take care of privacy issues. The intention of PPDM is to build up data-mining techniques without raising the risk of mishandling of the data exploited to generate those schemes. The conventional works include numerous techniques, most of which employ some form of transformation on the original data to guarantee privacy preservation. However, these schemes are quite multifaceted and memory intensive, thus leading to restricted exploitation of these methods. Hence, this paper intends to develop a novel PPDM technique, which involves two phases, namely, data sanitization and data restoration. Initially, the association rules are extracted from the database before proceeding with the two phases. In both the sanitization and restoration processes, key extraction plays a major role, which is selected optimally using Opposition Intensity-based Cuckoo Search Algorithm, which is the modified format of Cuckoo Search Algorithm. Here, four research issues, such as hiding failure rate, information preservation rate, and false rule generation, and degree of modification are minimized using the adopted sanitization and restoration processes.

Title:	Privacy Preservation in Data Mining: Algorithmic Analysis on Opposition Intensity-based Cuckoo Search Algorithm by varying Scaling Factor
Author:	G.K.Shailaja, Dr.C.V.Guru Rao

Privacy Preserving Data Mining (PPDM) is a significant aspect of data preservation without losing the privacy of the individuals. Thus, PPDM has become a most important area of research and a

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number of methods and techniques are being developed concerning the hiding of sensitive information. The most of the conventional research on this topic deals with the transformation of the original data into a different form and here the data guarantee is not addressed. Thus, this paper intents to develop novel privacy preservation model for data mining by following three major phases (a) Data sanitization (v) key generation (c) Restoration. In the data sanitization process, the sensitive fields of data are chosen and they are hidden using the optimal key generated in the key generation phase. The hidden message is transferred from the source to the destination and in the receiver side, the restoration process take place with the same key. The major novelty of this model lies in the optimal key selection and here the optimal key is selected using the Opposition Intensity-based Cuckoo Search Algorithm (OI-CSA), which is the extended version of Cuckoo Search algorithm (CS). Finally, the proposed model is evaluated in terms of analyzing scaling factor β using four datasets namely T10, Chess, Retail, and T40 for four research issues such as Hiding Failure (HF) rate, Information Preservation (IP) Rate, and False Rule generation (FR) and Degree of Modification (DM).

Title:	Class Imbalance Reduction (CIR): A Novel Approach to Software Defect Prediction in the Presence of Class Imbalance
Author:	B. Kiran Kumar, Dr. Jayadev Gyani and Dr. G. Narsimha

Software defect prediction (SDP) is the technique used to predict the occurrences of defects in the early stages of software development process. Early prediction of defects will reduce the overall cost of software and also increase its reliability. Most of the defect prediction methods proposed in the literature suffer from the class imbalance problem. In this paper, a novel class imbalance reduction (CIR) algorithm is proposed to create a symmetry between the defect and non-defect records in the imbalance datasets by considering distribution properties of the datasets and is compared with SMOTE (synthetic minority oversampling technique), a built-in package of many machine learning tools that is considered a benchmark in handling class imbalance problems, and with K-Means SMOTE. We conducted the experiment on forty open source software defect datasets from PRedict or Models in Software Engineering (PROMISE) repository using eight different classifiers and evaluated with six performance measures. The results show that the proposed CIR method shows improved performance over SMOTE and K-Means SMOTE.

Title:	An improved differential evaluation algorithm for data stream clustering
Author:	A.Bhaskar, Dr. Jayadev Gyani and Dr. G. Narsimha

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 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%, the precision is 86.96%, recall is 90.30% and F-measure estimate is 88.60%.

Title:	Security Enhancement Using Modified AES and Diffie–Hellman Key Exchange
Author:	Y.Bhavani, B.Jaya Krishna

In today's world, providing data security is a primary concern. For this purpose, many researchers have introduced asymmetric and symmetric algorithms to ensure security. But they are not resistant to many attacks. In this paper, we combine symmetric and asymmetric techniques to provide more security. Advanced Encryption Standard algorithm is modified by generating Dynamic S-Boxes (DSBoxes)to provide a better attack-resistant algorithm. In our approach, Diffie–Hellmanis used to generate and exchange both keys and random numbers. These random numbers create DS-Boxes used in Modified AES. The proposed algorithm is resistant to timing attacks, linear, and differential cryptanalysis attacks due to the usage of DS-Boxes.

Title:	Modified AES using Dynamic S-Box and DNA Cryptography
Author:	Y.Bhavani, Sai Srikar Puppala, B.Jaya Krishna

Today the frequency of technologicaltransformations is very high. To cope up with these, there is ademand for fast processing and secured algorithms for dataexchange. In this paper, Advanced Encryption Standard (AES) ismodified using DNA cryptography for fast processing and DynamicS-Boxes are introduced to develop an attack resistant algorithm. Thisis strengthened by combining symmetric and asymmetric algorithms.Diffie-Hellman key exchange is used for AES key generation andalso for secret number generation used for creation of Dynamic SBoxes.The proposed algorithm is fast in computation and can resistcryptographic attacks like linear and differential cryptanalysisattacks.

Title:	Survey On Digital Watermarking
Author:	Y.Bhavani, Sai Srikar Puppala , Spoorthy Shivani Pabba, Kavya Sri Kasarla, Kadipaka Anvitha

With the rapid growth in the usage of digital data there is a chance of hazardous situation for this digital data. It has been a momentous issue to the people to hide their information and secure their

data. This paper reviews the various forms of digital watermarking techniques which is one of the efficient ways to secure the privacy of digital information. The various algorithmic approaches for digital watermarking proposed by various authors was hmm discussed in this paper. We have also depicted the various experimental results advantages and disadvantages of the different digital watermarking approaches.

Title:	Survey On Chatbot
Author:	Y.Bhavani, Y.Maneesha, D. Sri Poojitha, K. Srividya, Shervitej Reddy

Chatbots receive increasing attention from media and industry, but at the same time it is not yet well known what chatbots really are, what they can be used for and how to create them. The goal of this work is to answer these three questions by analyzing existing platforms, products and technologies, and additionally developing an exemplary chatbot. Explaining what chatbots are, demystifying what to use them for and showing how to create them will help more people to be able to use and create chatbots and thereby accelerate the development of the chatbot ecosystem. Starting by defining fundamental terms, the first half of the work focuses on showing available platforms, products and technologies, while the second half guides through the development of an exemplary chatbot, including user interaction design and software architecture.

Title:	Grid Computing Security Issues And Challenges
Author:	Y.Bhavani, Sharon Sucharitha Kondru, Srignya Reddy Komandla, Divya reddy Chidirala

Since late 1990s, Grid computing has been playing an important role in computer science.To solve complex and enormous computations grid is utilized. Through web we can access remote resources from desktop, laptop and mobile phones. Grid is a single, huge super-computer connected to millions of discrete computers owned by individuals, institutes from various countries. In this paper we discuss the importance of grid computing, types of grid computing and its security issues.

Title:	Review on Digital Learning Technology and Its Tool
Author:	Y.Bhavani, Neha Naaz, Mohammad Aman, Srirangam Meghana

Technology has been evolving since times immemorial. Humans tend to learn, improve the existing concepts and adapt to new technologies at an applaudable rate. With the breakthrough in the fields of Desktops, Mobile developments, people have adapted to a rather new learning process called Digital Learning[1]. An exciting thing about digital learning is its boundless and inclusive access to everybody regardless of limitations. For this, we have surveyed and studied numerous papers and articles on digital learning. This paper is a structured presentation of our observations from the surveys. It starts from a brief introduction to digital learning and its history from which we explain different pedagogies used in digital learning. In the subsequent sections, we discuss the usage of

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digital learning technologies and tools. The paper then gives an insight into the advantages and disadvantages of digital learning.

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

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:	Cloud Computing Security in the Aspect of Blockchain
Author:	K. Praveen Kumar, Gautam Rampalli

Internet was first developed entirely based on belief, after facing problems of data leakage, manipulations, hackings and so on. All these challenges were accepted and risks were overlooked. The use of internet in the current times is not only limited to systems and mobiles but has spread its footprints in several domains of communication, shopping, work and so on. These are several new gadgets introduced that run on internet. In view of its extensive use and application, maintaining its integrity and protecting it from hackers, misuse, data loss are the points to be focused on. The current model of internet and information security works on closed approach and obscure, in contrast to the previous technology that used to run on the security concepts of open and transparent approach. The use of blockchain methodology is also emerging in the current era. The current article involves the development of a model based on systemic mapping. The results obtained were successful in perceiving the basic necessities in open problems. The proposal of several initiatives for models, frameworks, blockchain-based internet of things (IoT) was dealt in the article. Validation was also performed to test the adherence of all papers to IoT requirements. The current work may be a huge milestone for the development in the areas of trust, privacy and security of the data. The work may be a developmental approach industrially, wherein the organization belonging to different sectors that make use of internet could be benefitted.

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FACULTY INTERACTION WITH OUTSIDE WORLD

Dr. P. KAMAKSHI

1. Two week Faculty Development Programme on "Machine Learning and deep learning for real time application" , organized by NIT-Warangal from 29th November– 8th December 2019.

2. 12 week NPTEL online certification course on "Problem Solving Through programming in C", Funded by the Ministry of HRD, Govt. of India", Jan-April 2019.

3. Attended DST Sponsored Two week Faculty Development Programme on "Machine Learning in Speech Processing" , organized by KITS-Warangal from 11th – 22nd November, 2019.

G.K.SHAILAJA

1. One Week online FDP on "LaTeX and Technical Report Writing", organized by Dept of Mathematics, KU Warangal in association with spoken tutorial, IIT Bombay from 25th to 30th May, 2020.

2. A National level One Week online FDP on " Recent trends in communication and wireless networks", organized by KKR and KSR Institute of Technology and Science, Guntur, AP from 5th to 9th June, 2020.

3. One week FDP on "Python 3.4.3 and Python Django" organized by CMR Engg. College, Hyd., in association with spoken tutorial IIT Bombay from 8th to 13th June, 2020.

4. 12 week NPTEL online certification course on "Programming in Java", Funded by the Ministry of HRD, Govt. of India", Jan-April 2019.

DR.T.SENTHIL MURUGAN

1. MHRD Short term training on "Python 3.4.3" organized by IIT Bombay from 25th April to 2nd may 2020.

2. One Week online FDP on "Internet of things for emerging applications" organized by ECE of KITSW from 10th to 14th May, 2020.

B. KIRAN KUMAR

1. AICTE Sponsored Two week FDP on "Domain Specific Internet of Things and Illustration of IoTs Design using Case Studies" organized by Dept. of CSE, KITSW from 9th to 21st January, 2020.

2. One week FDP on "Innovative Trends in Data Analysis with AI" organized by Malineni Lakshmaiah Women's Engineering College, Guntur from 26th to 30th May, 2020.

3. Attended One Week Faculty Development Programme on "Machine Learning Applications in Software Engineering " organized by E & ICT Academy, NIT Warangal from 11th -16th June, 2019.

4. Attended DST Sponsored Two week Faculty Development Programme on "Machine Learning in Speech Processing" , organized by KITS-Warangal from 11th – 22nd November, 2019.

A.BHASKAR

1. NPTEL-AICTE FDP Online Certification awarded in "Introduction to Programming in C" course during Jul-Sep 2019.

2. Attended DST-sponsored FDP on "Advances in Internet of Things" during 12th-22nd December, 2019 organized by KITS-Warangal.

3. 12 week NPTEL online certification course on "Database Mangement System", Funded by the Ministry of HRD, Govt. of India", Jan-April 2019.

Y.BHAVANI

1. AICTE sponsored One week Short Term Training Programme on "R programming & Hadoop in Big Data Analytics" organized by Dept. Of CSE, Vaagdevi College of Engineering Bollikunta, Warangal from 2nd to 7th December 2019.

2. 12 week NPTEL online certification course on "Cryptography and Network Security", Funded by the Ministry of HRD, Govt. of India", Jan-April 2019.

S.B.SWATHI

1. Two week FDP on "Advances in Internet of Things" organized by Dept. Of CSE, KITS Warangal from 12th to 22nd Dec, 2019.

2. 12 week NPTEL online certification course on "Programming in Java", Funded by the Ministry of HRD, Govt. of India", Jan-April 2019.

M.KISHORE

1. One Week online FDP on "Internet of things for emerging applications" organized by ECE of KITSW from 10th to 14th May, 2020.

2. Two weeks Faculty Improvement Program on "Developing Teachers Overall Personality" organized by Prerna College of Commerce, Nagpur from 11th to 20th may, 2020.

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3. 12 week NPTEL online certification course on "Programming in Java", Funded by the Ministry of HRD, Govt. of India", Jan-April 2019.

4. Attended DST Sponsored Two week Faculty Development Programme on "Machine Learning in Speech Processing" , organized by KITS-Warangal from 11th – 22nd November, 2019.

R.GAUTAM

1. One Week FDP on "Database Design and Programming with SQL" organized by TASK in association with Oracle Academy from 24th to 28th Feb, 2020.

2. One Week online FDP on "Data Science" organized by AICTE Training And Learning (ATAL) Academy at NIT Nagaland from 11th to 15th may, 2020.

3. One Week online FDP on PHP & MySQL organized by Department of Computer Science and Engineering, JNTUH College of Engineering, Jagtial 18th to 23rd may, 2020.

4. One Week online FDP on Cloud Infrastructure and Virtualization organized by Department of Science and Engineering, Institute of Aeronautical Engineering from 25th to 29th may, 2020.

T.MAHESH KUMAR

1. 12 week NPTEL online certification course on "Problem Solving Through programming in C", Funded by the Ministry of HRD, Govt. of India", Jan-April 2019.

2. Attended DST-sponsored FDP on "Advances in Internet of Things" during 12th-22nd December, 2019 organized by KITS-Warangal.

DR.K.PRAVEEN KUMAR

1. One Week FDP on "Database Design and Programming with SQL" organized by TASK in association with Oracle Academy from 24th to 28th Feb, 2020.

2. One-Week National Level Online FDP on "Python 3.4.3 & Python Django organized by CMR Engineering College, HYD from 8th to 13th June, 2020.

3. 12 week NPTEL online certification course on "Cloud Computing", Funded by the Ministry of HRD, Govt. of India", Jan-April 2019.

K.GOUTHAM RAJU

1. Three day National Level Seminar on "Deep Learning for Engineering Applications" organized by Dept. of ECE, KITSW, from 6th to 8th January, 2020.

BOOKS PUBLISHED BY FACULTY:

S.No	Name of the Faculty	Title of The Text Book	Name of The Publisher	Edition	Year
1	T.Mahesh Kumar, Dr.P.Kamakshi	Problem Solving with Algorithms and Data Structures using Python	Lambert Academic Publishing, ISBN : 978-620-0-11556-0	First	2019

Events Conducted By Department:

S. No.	Title of the Event	Type of the Event	Resource Person	Date of event
1.	Version Controlling Systems in Big Data Perspective	Guest Lecture	Mr. S. Rathan Kumar, Senior Software Engineer, People Tech Group, Hyderabad.	11.03.2020
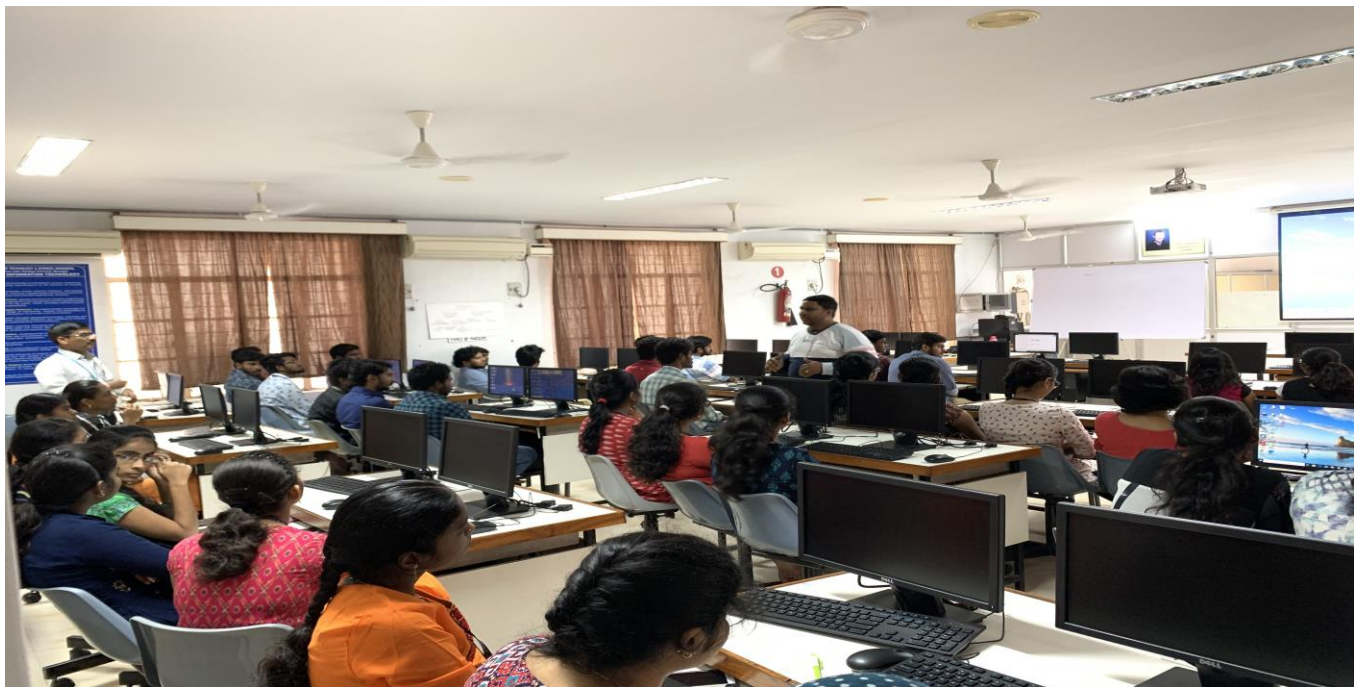
Department of Information Technology has organized a Guest Lecture on "Version Controlling Systems in Big Data Perspective " on 11.03.2020 as part of association activity. Mr. S. Rathan Kumar,Senior Software Engineer, People Tech Group, Hyderabad. delivered the lecture.

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S. No.	Title of the Event	Type of the Event	Resource Person	Date of event
2.	GOOGLE CLOUD PLATFORM	Workshop	Mr. Mahesh Rakheja, Director, The TechIntern Pvt. Ltd.	October, 24th 2019

Department of Information Technology has organized a one day workshop on "GOOGLE CLOUD PLATFORM" on 24th October, 2019 as part of SUMSHODHINI-19 during the academic year 2019-20. Mr. Mahesh Rakheja, Director, The TechIntern PVT. Limited, Chennai delivered the lecture. Department has made the arrangements in Block-IV New Seminar Hall and about 153 students attended the workshop. M.Kishore, Asst.Professor, and T.Mahesh Kumar, Asst.professor of IT dept. coordinated this event .

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S. No.	Title of the Event	Type of the Event	Resource Person	Date of event
3.	Database Design And Programming With SQL	Faculty Development Program	Mrs. Pragathi Agarwal, Oracle Corporate Trainer	January 24st To 28th , 2020

A one week faculty development program on "Database Design And Programming With SQL" was organized by the department of Information Technology in association with TASK, during January 24th to 28th , 2020. The resource person for this workshop Mrs. Pragathi Agarwal, Oracle Corporate Trainer. More than 40 faculty members were registered for this faculty development program.

S. No.	Title of the Event	Type of the Event	Resource Person	Date of event
4.	Microservices with container architecture	Guest Lecture	Mr. Shashidhar Bejjanki , Lead Analyst, Bank of America, Hyderabad,	16th September,2019

Department of Information Technology has organized a Guest Lecture on "**MicroServices with Container Architecture"** on 16th September, 2019 as part of association activity during the academic year 2019-20. **Mr. Shashidhar Bejjanki , Lead Analyst, Bank of America, Hyderabad**, has delivered the lecture. Department has made the arrangements in Block-V Information Laboratory and about 60 students attended the guest lecture.**B.Kiran kumar, Associate professor of IT dept. coordinated this event.**

Industry Visits:

S.No	Industry visited	Dates of Visited	No. of Students
1.	INCOIS, Hyderabad	03.02.20	45

As part of Industry-Institute Interaction, Department of Information Technology B.Tech IT VI semester students visited Indian National Centre for Ocean Information Services (INCOIS), Hyderabad on 03rd February, 2020.The visit helped the students to understand the utilization of Information Technology in providing Ocean Information, Advisory Services, Weather Forecast and other applications.

Students Placements:

S. No	Roll No.	Name of the Student	Selected for company
1	B16IT002	Madarapu Srija	TCS-Ninja
			Mphasis
2	B16IT004	M Vineeth Reddy	TCS Code– Vita
			Infosys
			Wipro
3	B16IT006	Gurleen Kaur	Tech Mahindra
4	B16IT007	Pattoori Vasanthi	Mphasis
			Wipro
5	B16IT010	N.Vishwasena Raidu	TCS-Ninja
			Mphasis
			Infosys
6	B16IT013	B.Jaya Krishna	Mphasis
			Infosys
			Value Momentum
7	B16IT016	P.Meghana Reddy	TCS-Ninja
			Mphasis
			Infosys
8	B16IT020	Puli Meghana	TCS-Ninja
			Mphasis
			Infosys
			Wipro
9	B16IT023	Neha Tanseem	Infosys
10	B16IT024	Mogili Niharika	TCS-Ninja
			Mphasis
			Infosys

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			Wipro
11	B16IT027	Kaleru Manihar	TCS-Ninja
12	B16IT030	Siripuram Sai Priya	Infosys
13	B16IT034	Dubbas Tejaswi	ZenQ
			Infosys
14	B16IT035	Kurimilla Sushma Sheetal	Artech(IBM)
15	B16IT037	Burra Tejaswi	ZenQ
			Infosys
16	B16IT040	Donthula Preethika	TCS-Ninja
			Infosys
17	B16IT041	Samiha Shaik	Infosys
18	B16IT042	Bonagani Maniteja	Infosys
19	B16IT045	Vanchanagiri Venkata Ramana	TCS-Ninja
			Mphasis
			Infosys
20	B16IT046	Kalwa Mahesh	Infosys
			Wipro
21	B16IT047	Prathapani Prathima	Hexaware
22	B16IT048	Deshini Akhil	TCS-Ninja
			Wipro
23	B16IT053	Challa Sai Krishna	TCS-Ninja
			Mphasis
			Value Momentum
24	B16IT055	Masuram Rahul	Infosys
25	B16IT056	Ksheerasagar Rohan	Infosys

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Faculty Contribution:

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By

Dr.P.Kamakshi

Professor & Head, Dept. of I.T.

Innovative Projects

Project Title: Auto Hand Sanitizer

Hardware : Arduino Uno /Nano, ultrasonic sensor/ IR sensor, 5V relay module, Power cable, connecting wires, 3D printer.

Softwares: Arduino programming, tinkercad.

Designed and Developed by

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Dr.K.Praveen Kumar

Assistant Professor

Department of I.T.

Student's Contribution:

COURAGE IS YOUR STRENGTH

Did you ever fail in your life?

The answer 'No' would be rare. The question may be simple but once you look back into your life you will realize your mistakes in every event you failed. Knowing our mistakes and avoiding them for the next time plays an important role in building up a strong career. But, the most important thing to remember is "courage". Never let go of Courage.

Consider a jungle with wide variety of flora and fauna. Each animal has its own speciality and lives in its comfortable way and even adapt to new conditions to live. Thought cheetah may be the fastest running animal, jackal may be the most cunniest ,giraffe may be the tallest and elephant be the biggest, but only the lion is the king of the jungle. None of the other animals can. That can be possible for lion because it has courage to become the king.

Though we fall in any aspect we should never lose courage which will definitely lead to success.

-M.Vyshnavi ,B19IT040

B.Tech (I.T) II Semester

STRANGERS

We came as strangers,

But faced many dangers.....

We are slow knowledge gainers,
But became fast messengers......
We turned as tiffin box exchangers,
But we are friends like hermoine grangers.....
We enjoyed our college days without noticing any endangers,
But became containers of entertainers.....
We are the lazy minded teenagers,
But attended parties like avengers....
Finally we turned as game changers and became memories collectors......
For all the graduates of 2020

- Ganesh Andhe, B16IT052
B.Tech (I.T) VIII Semester

"A FOREVER MEMORY"

Dear college.,
Thank you, for providing us a wonderful platform to grow up together.
Thank you, for making our important phase of life cherish with countless memories.
Thank you, for giving us supportive faculty who never left us, whenever needed.
Thank you for appreciating and encouraging us in any field that we are interested in.
Thank you for helping us create some of the lifetime bonds.
Thank you for helping us mould our lives into beautiful stories.
Thank you for making our journey a complete and wonderful one.
A "Thank You letter" on the behalf of the batch 2016-2020.

- Preethika Donthula, B16IT040
B.Tech (I.T) VIII Semester

MOM

You are the only reason to my BIRTH
You are the only reason to MY HAPPINESS
You are the only reason to my DESTINY

You are the only OXYGEN to my BREATH
You are the only BEAT to my HEART
You are the only PATH to my STEPS
You are the only SWING to my MOOD
You are the only RYTHM to my SPEECH
You are the only SENSE to my BODY

You are the only RISE to my FALL
You are the only BOON to my BANE
You are the only OPPORTUNITY to my WOES
You are the only SOLUTION to my PROBLEMS
You are the only STRENGTH to my WEAKNESS
You are the only SUNSHINE to my DARKNESS

You are the only BEAUTIFUL of my WORLD

You are the only LOVE of my LIFE
You are the only GODDESS of my UNIVERSE
YOU ARE MY FIRST THING
YOU ARE MY BESTEST THING
YOU ARE MY EVERYTHING
WITHOUT YOU I AM NOTHING

-Sreeja Podishetty, B17IT037
B.Tech (I.T) VI Semester

TURNS OF LIFE

Life is filled with turns..
Not every turn is an end...
Not every turn is a beautiful destination...
But, every turn in life leaves you with an experience for the next turn to be crossed..
Every turn crossed will be the beginning of a new start to life...
Every turn may be a chance given or a challenge thrown to u...
Every turn crossed will lead you to the treasure of destiny...
Turns in life may be more or less depending on one's life...
But, they definitely lead to a beautiful destination in everyone's life...

-Kavya Sri,B17IT035
B.Tech (I.T) VI Semester

ARTICLES

1. ARRAY OF THINGS

Have you ever wondered what would happen if you had all the information about your city like whether you need an umbrella today, the best route to get out of traffic jam and the most peaceful park to visit? Having such information would definitely make our lives easier and array of things is one such project that is aiming to develop a smart city by using a network of sensors. These sensors are going to collect real time data about the environment, temperature, climate and basically every urban activity happening in your city. it is then going to provide this data to the residence so that the city can be offered with better services.
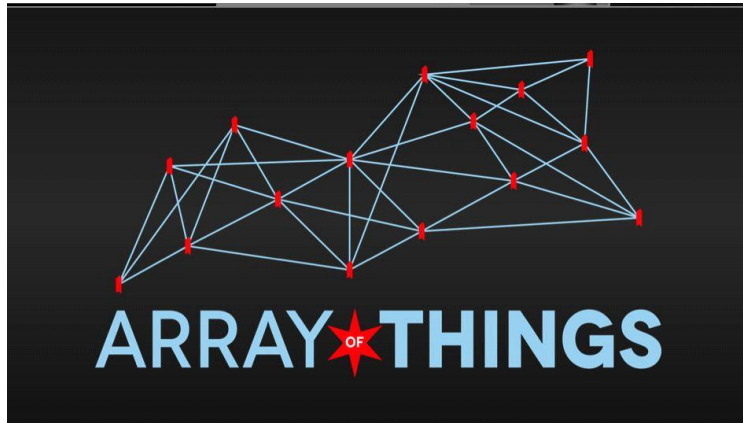
The array of things is a network of sensors. It's really about providing data to the residents of the city of Chicago as well as to scientists policymakers .Over the next two years expecting a huge development by installing a network of 500 sensor devices that will help us to better understand some of the challenges of the city life whether that's urban flooding or air quality and asthma and gives us better understand what's at the root of some of these challenges how policymakers use that insight to start to address some of the challenges. It will be able to understand things like road conditions better because the array of things will help us see where water is collecting and it will help us understand pedestrian and vehicular traffic patterns better so could be able to offer better services.

Goal of AOT:

AOT will provide real-time, location-based data about urban development, infrastructure and activity to researchers and public. This initiative has the potential to allow developers, residents, policymakers and researchers to work together and specific actions that will make cities healthier, more efficient and more livable. The data will help cities operate more efficiently and realise cost savings by anticipating and proactively addressing challenges such as urban flooding and traffic safety.

Because the data is published openly without charge, it can also support the development of innovative applications, such as mobile application that allows a resident to track their exposure to certain air contaminants, or to navigate through the city based on avoiding urban heat islands, poor air quality or excessive noise and congestion.

2. AN OVERVIEW ON 3D TECHNOLOGY

Digital fabrication technology, also referred to as 3D printing or additive manufacturing, creates physical objects from a geometrical representation by successive addition of materials. 3D printing technology is a fast-emerging technology. Nowadays, 3D Printing is widely used in the world. 3D printing technology increasingly used for the mass customization, production of any types of open source designs in the field of agriculture, in healthcare, automotive industry, locomotive industry and aviation industries. 3D printing technology can print an object layer by layer deposition of material directly from a computer aided design (CAD) model. This article presents the overview of the types of 3D printing technologies.

Introduction

3D printing is any one of many processes in which a part is additively created by introducing or bonding additional material. 3D printed objects can be geometrically complex and are ideal in a wide variety of manufacturing applications. Machines can cost anywhere from hundreds to millions of dollars and utilize a wide variety of technologies to print parts.
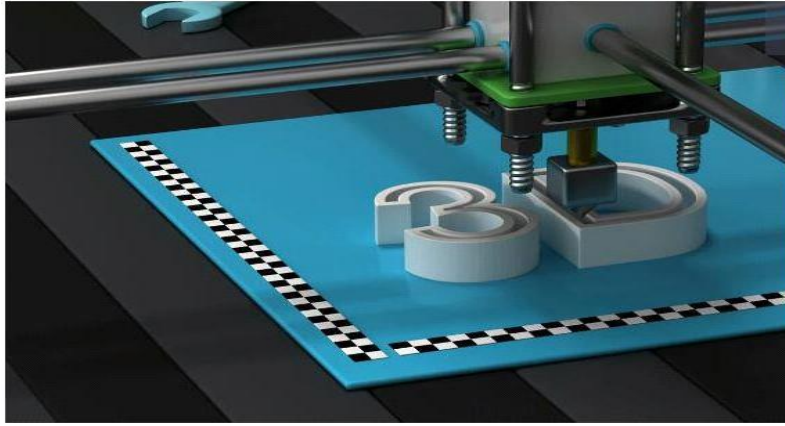
According to the Wohler's Report, the global 3D printing industry is expected to exceed \$21B in worldwide revenue by 2020. Much of this growth comes from an explosion in using 3D printing in manufacturing, something previously thought impossible when the process caught on. New materials, processes, and companies are popping up by the minute, all making promises about the unrivaled properties their parts can achieve. All this adds up to an industry that can be hard to understand.

Types of 3D printing:

- Binder jetting: Binder jetting is a rapid prototyping and 3D printing process in which a liquid binding agent is selectively deposited to join powder particles. The binder jetting technology uses jet chemical binder onto the spread powder to form the layer

- Directed energy deposition: Directed Energy Deposition or DED is a category of additive manufacturing processes that use a coaxial feed of metal material of powder

or wire. These materials are led to an energy source (usually consisting of a laser) to create a melt pool on a   base substrate

- Materials extrusion: Material extrusion is an additive manufacturing technique which uses continuous filament of thermoplastic or composite material to construct 3D parts. The material in the form of plastic filament fed through an extruding nozzle, where it heated and then deposited onto the build platform layer by layer.

- Materials jetting: Material jetting is the only additive manufacturing technology that can combine different print materials within the same 3D printed model in the same print job.

- Power bed fusion:Selective laser melting (SLM), also known as direct metal laser melting (DMLM) or laser powder bed fusion (LPBF), is a rapid prototyping, 3D printing, or additive manufacturing technique designed to use a high power-density laser to melt and fuse metallic powders together. To many, SLM is considered to be a subcategory of selective laser sintering The SLM process has the ability to fully melt the metal material into a solid three-dimensional part unlike SLS.

- Sheet lamination: The sheet lamination 3D printing technique is mainly used to produce colored objects in a high detailed resolution. As a build material, thin layered materials like aluminum foil or paper based filaments are cut into appropriately shaped layers, often by lasers or a very sharp blade.

- Vat photo polymerization: Vat photo polymerization is a category of additive manufacturing (AM) processes that create 3D objects by selectively curing liquid resin through targeted light-activated polymerization.... All types of vat photo polymerization use special resins called photopolymers as the printing material.

Materials used for 3D printing technology in manufacturing industry:

- metals

- polymers

- ceramics

- composites

- smart materials like textile, lunar dust etc
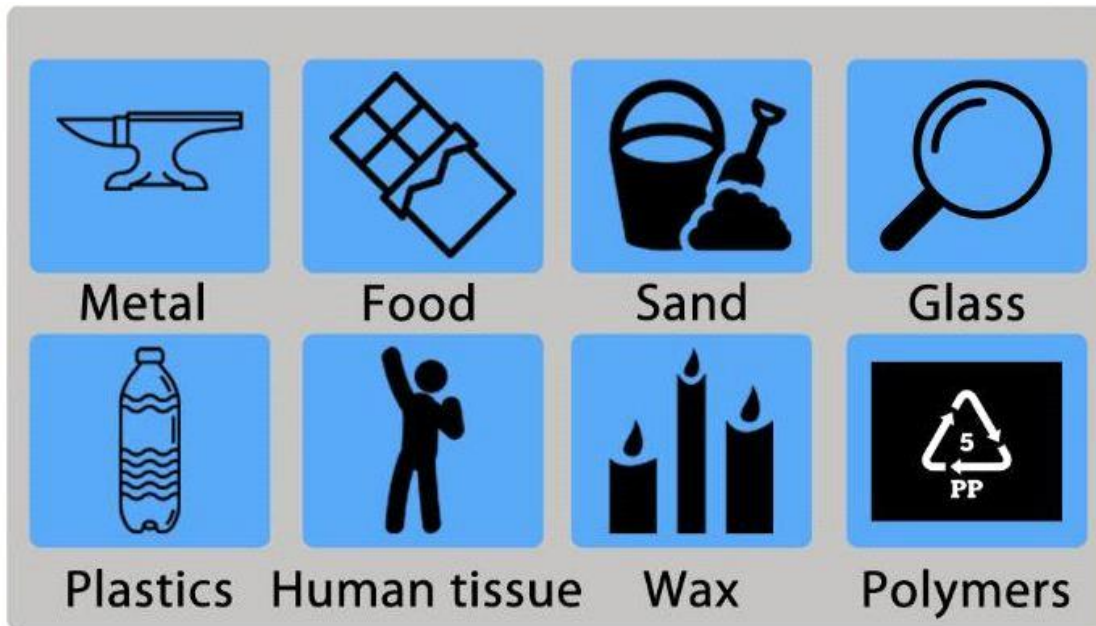
Applications:Aerospace, automotive, food, health care, medical, architecture, building, construction, fabric,fashion, electronic and electric industries.
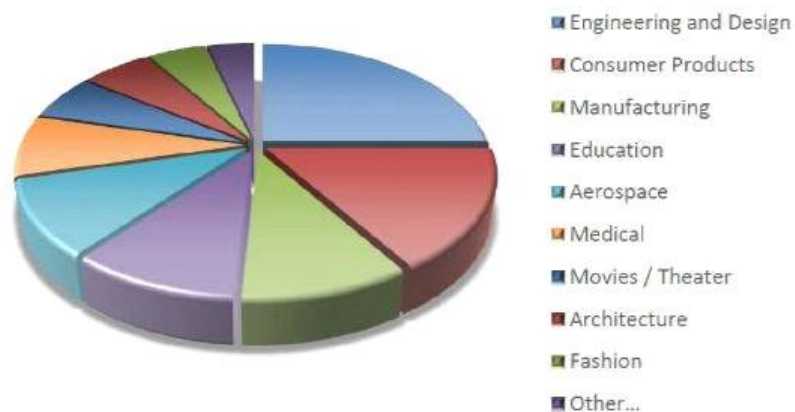
3D printing is spread across a large number of industries.

Conclusion

:In this review, there are rich landscape of 3D printing in manufacturing industry. At present, 3D printing technology is beginning in the manufacturing industries, it offers many benefits to the people, company and government. Therefore, more information is needed to

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progress on ways to enhance the adoption of 3D printing technology. The more information about 3D printing technology will help the company and government to upgrade and improve the infrastructure of 3D printing technology. Thus, this paper is to overview the types of 3D printing technologies, materials used for 3D printing technology in manufacturing industry and lastly, the applications of 3Dprinting technology. In the future, researchers can do some study on the type of 3D printing machines and the suitable materials to be used by every type of machine.

Reference:ISO/PRF 17296-1,"Additive manufacturing --General principles -- Part 1: Terminolog,P. Holzmann, J. Robert, A. Aqeel Breitenecker, Soomro, & J. S. Erich, "Userentrepreneur business models in 3D printing," Journal of Manufacturing Technology Management.

-M.Vyshnavi
P.Santhoshi
A.Ruthvik

3. IMPACT OF AI AND ROBOTICS ON EMPLOYMENT

Introduction:
Artificial Intelligence and Robotics not only reduces the human effort but also creates new empoyment.This helps in many ways as humans may become tired but machines never do and they don't need rest.They work faster than humans.

Robotics:
A machine that looks like human and even acts like a human is called Robot and the study of these Robots is Robotics.Robots learn to perform tasks from humans through Artificial Intelligence.

Artificial Intelligence:
Artificial Intelligence is also called as Machine learning,it is the intelligence of machines,unlike intelligence of humans and animals.It is a general term that implies that use of computer to do or replicate intelligent behaviour by development and analysis of algorithms.

How A.I. and Robotics creates more employment opportunities :
When it comes to organising and exceuting tasks in a blink. A.I. and Robotics are preferred choice. A.I. has almost applications in every industry that the top companies like Facebook,Google,Amazon...etc. using it. A.I. and Robotics not only enhances exsiting jobs but also create new roles.By reports generated ,it suggests that A.I. would generate an estimated of 2-3 million jobs by the end of the year.

not like any other technology , A.I. and Robotics require dedicated training courses. This encouraged the need for Artificial Intelligence courses, thus giving proffesionals for a new wave of change brought about by innovation in Robotics and Artficial Intelligence.

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Creates new job roles:
A.I. and Robots never fail,the task which were extremely complex now have been a cake walk.Addition to this as the number of A.I. and Robotics devices increases, so will the job roles increases. recently, Google invested in an agency called Kortical A.I. which is a platform that derisks and accelerates A.I. projects.

Impact on employment:
The impact of A.I. and Robotics on employment goes far deeper than just jobs creation. These are niche technologies and there is a massive demand for performing microtasks like data analysis which require a significance level of expertise, so there is a need of trained proffessionals who can perform these tasks.
According to some reports there is a shortage of open developer positions, through a survey by sales force.52 percent IT recuriters have faced a significant skill gap judging these salts there would be huge demand of IT proffesionals. Hence this is a good time to learn the courses.

New Innovations: Intrestingly, these A.I. and Robotics were not just limited to IT industry but were working in the fields of manufacturing ,marketing, finance, sales and accounting. Advances in these will enable machines to efficently and quickly perform more mundane and time consuming tasks, this allowing new innovations.
For example, driverless cars and automated health care parts assembly, packaging are the applications of advancements in A.I. and Robotics.

Research and Development:
A.I. and Robotics will flourish only through new innovations, innovations can be done only by researching and development. This brings focus on neat layer of employment i.e, research, development and enhancement. Some of the leading companies have started in. Facebook has started its research on A.I. by starting FAIR (Facebook Artificial Intelligence Research).They started making advanced Robots and they also require experienced proffessionals in their department who can perform according to existing prototype.

Conclusion
The future of many companies and industries is A.I. and Robotics. They will a huge demand so therefore indulge yourself in one of these or both of them to get more employment opportunities. As opposed to fear of machines taking over jobs. AI. and Robotics create new roles enhance the exsisting jobs thus improving the employment prospect in every industry. It will also help highly skilled people to invent, develop and maintain allied and complementary products.

<div align="right">
Presented by:
P.Yuvaraj
V.Rachana
G.Mythri Reddy
</div>