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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

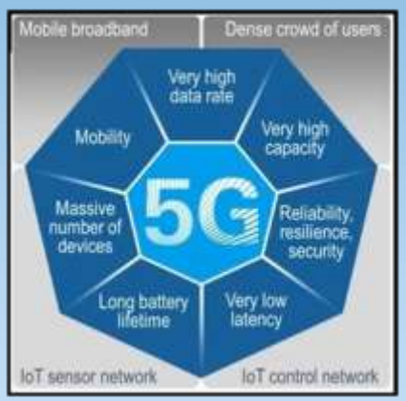
Vision

"To be a nationwide recognized department that produces versatile computer engineers, capable of adapting to the changing needs of computer and related industry".

Mission

1. To impart quality technical education with skills, knowledge and attitude to succeed in Computer Science & Engineering careers.
2. To provide knowledge of emerging trends in computer and related industry and foster environment of lifelong learning.
3. To develop graduate engineers who investigate research, design and find workable solutions to complex engineering problems with awareness and concern for society and environment.

5 G Wireless Technology



5G simply refers to the next and newest mobile wireless standard based on the IEEE 802.11ac standard of broadband technology. We can say that – 5G Wireless Technology denotes the proposed next major phase of mobile telecommunications standards beyond the current 4G standards. Rather than faster Internet connection speeds, 5G planning aims at a higher capacity than current 4G, allowing a higher number of mobile broadband users per area unit, and allowing consumption of higher or unlimited data quantities in gigabyte per minute and user. This would make it feasible for a large portion of the population to consume high-quality streaming media many hours per day on their mobile devices, also when out of reach of Wi-Fi hotspots. 5G research and development also aim at the improved support of machine to machine communication, also known as the Internet of things, aiming at lower cost, lower battery consumption, and lower latency than 4G equipment.

With a huge array of innovative features, now your Smartphone would be more parallel to the laptop. The most distinguishing feature of 5G Network is that the network will be based on the User experience, System Performance, enhanced performance, business models and Management & Operations. 5G will utilize the advance access technologies such as Beam Division Multiple Access (BDMA) and Non and quasi-orthogonal or Filter Bank Multicarrier (FBMC) Multiple Access. The new advanced technology called Fog Computing is going to support the 5G development.

5G Wireless Technology uses UWB (Ultra Wide Band) networks with higher Band Width at low energy levels. Band Width is of 4000 Mbps, which is 400 times faster than today's wireless networks. It uses a smart antenna and CDMA (Code Division Multiple Access).5G will be the single unified standard for different wireless networks, including LAN technologies, LAN/WAN, WWWW – World Wide Wireless Web, unified IP & seamless combination of broadband.

5G isn't expected until 2020, a lot of buzz about its upcoming features, additional benefits in comparison to 4G, resources required to implement the 5G.5G will impact the entire Mobile Network and brings in a new era of technology.

Prof. Jayashree Singha

Department of CSE, SIT

Seminar & Workshop

1. *Machine Learning*

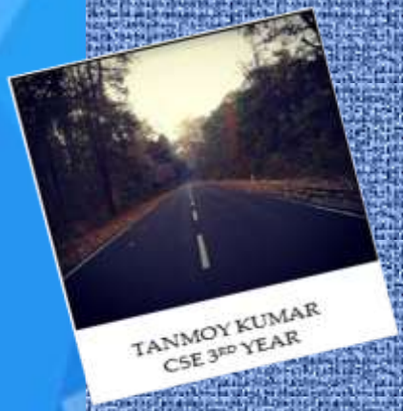
(10th & 11th November,2017)

2. *Image Processing & Pattern Recognition (Going to be held on 27th &28th April,2018)*

THE PARALLEL WORLD: THERE IS ALWAYS SOMEONE BESIDES US.

Wouldn't it be awesome if you could choose all the choices of life simultaneously? Keeping this in mind a new concept called 'parallel space' comes to the light. Parallel space is a simultaneous virtual space which exists with the real or the so called actual space where we live in. It is a space with all kind of probable situations that can arise in our day to day life. Stephen Hawkings in one of his books did mention about the parallel universes. These are the alternate universes which coexist along with our own universe in a different dimension at the same time. The combination of all these universes gives rise to an ocean of universes called the 'Multiverse'. These parallel universes may differ from each other starting from small minute changes like the mass of an atom to as large as the number of stars in a galaxy. The concept of parallel universes have been discussed ever since Einstein's proven formula, $E = mc^2$ where E, is the energy liberated when m, mass of matter travels at the speed of light, c. These formula helps us derive a relation between space and time which gives the understanding of a probability of another possible space. There are a lot of theories suggesting that we can travel from one universe to another parallel universe. Even though if a person can somehow travel from one universe to another it might so happen that he may not be able to return back to his real universe cause the moment he sets foot in the other universe a different possibility altogether begins and now his real universe is left behind. Due to this reason no one has tried to do a 'dimensional shift' or travel from one universe to another. Hence, parallel space exists only in theories. However, with the passing of time and humanity reaching its peak development can overcome such a dangerous feat.

Aniket Ghosh
CSE 2nd Year, SIT



Automatic Text Summarization

Text summarization is one of application of natural language processing and is becoming more popular for information condensation. Summarization is the art of abstracting key content from one or more information sources Summarization includes text summarization, image summarization, and video summarization. Automatic text summarization system generates a summary, i.e. it contains short length text which comprises all the key information of the document. Summary can be generated through extractive as well as abstractive methods. Summarization is the way of abstracting important information from one or more sources .It increases the likelihood of finding the points of texts, so the user will spend less time on reading whole documents. Some people make decisions on the basis of reviews they have seen and with summaries they can make effective decision in less time. With increasing volume of information summarization play a very important role in terms of time saving. Text summarization is a difficult task which preferably involves deep natural language processing capacities and in order to simplify the issue current research is focused on extractive summary generation. Summarization task can be either supervised or unsupervised. In supervised learning training data is needed for selecting main content from the documents. Large amount of annotated or labeled data is needed for learning techniques. These systems are addressed at sentence level as two-class classification problem in which sentences belonging to the summary are termed as positive samples and sentences not present in the summary are named as negative samples . Some of the classification methods used in machine learning is Support Vector Machine (SVM) and neural networks .Unsupervised systems do not need any training data. They generate the summary by retrieving only the target documents. Therefore, they are appropriate for newly observed data without any advanced modifications. There are different types of summarization technique are present, In this document I just define some language based summarization;

i. Mono-lingual summarization:

This type of summarization include input document and the target document be in same language. Example: English to English.

ii. Multi-lingual summarization:

When source document is in a number of languages like English, Hindi, Punjabi and summary is also generated in these languages, then it is termed as a multi-lingual
Summarization system.

iii. Cross-lingual summarization:

This type of summary includes source document to be in one language and summary to be generated in some other language

Ms. Sampa Das
Department of CSE, SIT

Publication Updates ..

Paper publications by our faculties:

1. Moumita Ghosh, Himadri Nath Moulick, International Journal of Trend in Research and Development (IJTRD), "Medical Image Segmentation", Volume-4 ,Issue-4 pp 656-659 ,July-Aug 2017,ISSN: 2394-9333.

2. Prasanta Kumar Roy, Krittibas Parai, Sathi Ball, Bipin Kumar, "A new enhanced Secure anonymous communication with authentication and session key agreement in global mobility network", IEEE, 3rd IEEE International Conference on Research in Computational Intelligence and Communication Networks (ICRCICN),25 December 2017.

3. Sudeep Basu, Indrajit Pan, "Overlapping Community Detection through Threshold Analysis on Disjoint Network Structures",International Conference on Advanced Computational and Communication Paradigms (ICACCP), Springer, SMIT, Sikkim, (2017), Springer (In Press).

4. Debajyoti Guha,Rajdeep Chakraborty,J.K. Mandal, "An Approach Towards Design and Analysis os a new Cryptographic System using Modular Encryption and Decryption Technique", 52 nd Annual convention of Computer Society of India (CSI 2017)as Indian National IT congress. Theme: "Social Transformation-Digital Way"Kolkata Chapter 19-21 January,2018, Springer Nature Singapore in CCIS series(In Press).

A dream becomes a goal when action is taken toward its achievement.

Glimpses of Students' Achievements

Congratulations to Ms. Neha Goyal (2017 Passout CSE): Successfully Cleared Common Admission Test 2017 (Indian Institute of Management), Her Overall percentile is 89.59.

Congratulations to Mr. Monideep Banerjee (B.Tech 3rd Year CSE) for 2nd Runners up, Inter College Chess Championship on 21st January 2018.

Congratulations to Ms. Gargi Sau (B.Tech Final Year CSE) for Successfully placed at Intel Inc. after Internship.

Inauguration of Computer Engineers' Society for the Department of CSE & IT Students. They have successfully conducted two events in this session—CodeBites2 and Sodoku competition.

Alumni Talk

Supratik Saha (2003-2007), Senior Data Scientist at Kelley Blue Book, Greater Los Angeles

We are not made equal and many of us want different things in life. In this time and age where we are bombarded with bitter messages from radically opposite camps it's important to understand and honour our differences. Rather than getting immersed in meaningless arguments to prove the superiority of an idea over another, a constructive approach to life may be to do something positive for our community, our friends and family or even just ourselves. Taking the time to remember the goals that are important to us and assess if our actions are in sync with them is an exercise we should stop to repeat time and again. At the end of the day, a community and country at peace will serve all of us better individually and collectively than a community divided into resentful rival groups.

Ishant Sharma (2013-2017), Associate Developer, Altimetrik, Chennai, India

Keep trying on new things; go beyond your normal syllabus. Try to explore new stuffs, continue making mistakes. Your mission in life should not mainly to survive, it should be to thrive. And you do so with some passion, with some compassion, with some humor and some style. Enjoy your engineering life while you also study, you also make good outcome out of your time.

Events Roadmap .....

CodeBites2
2nd-3rd November 2017
Conducted by: CES (Students Society)

Two days Seminar on
Machine Learning
10th –11th November 2017

SUDOKU Competition
14th November 2017
Conducted by: CES (Students Society)

Basket Ball Champion 2017 (Team—CSE)

Poster Competition (Ranked—First)
Rajiv Chowdhury 3rd Year CSE, 15th Sep'17

Wall Magazine LOGIC 2017

1st Year Induction Programme

Fresher's welcome 2017

Teachers day Celebrations

Editorial Team: Mr. Anupam Mukherjee, Ms. Moumita Ghosh, Ms. Sutapa Bhattacharya, Members of CES