# infocast

*A Quality Newsletter Published by Department of Computer Science & Engineering*

VOLUME III, ISSUE I

JULY , 2018

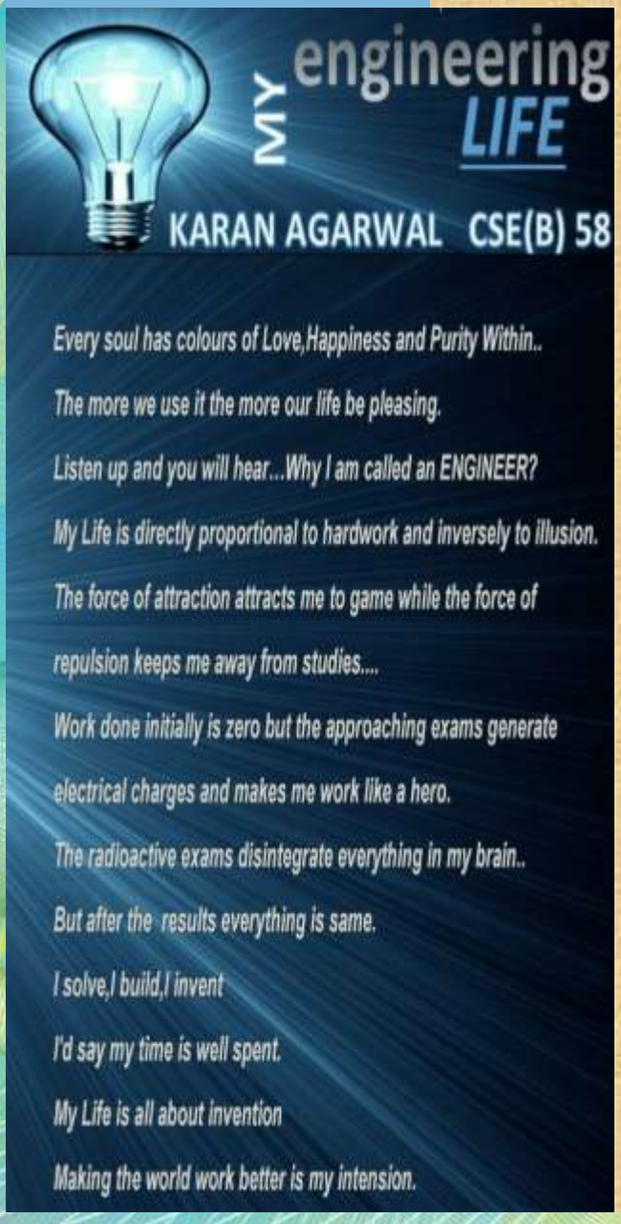

## DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

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.




## Blue Brain Technology

*"Time always falls short for the finest of the brains, making them unable to harness their full potential"* - Subham Sarda

History has always produced people with the finest of brains and will continue to do so, but time and resources have always limited what they could do. But, what if their minds could be used even after they left the world? Well, until in 2009 when Prof Henry Markram spoke about the Blue Brain Technology for the first time at TED,nobody would have even ever thought about been able to use the brain after death.

The Blue Brain Project, which is a Swiss Brain initiative, led by *Prof Markram* proposes that, it is possible to build simulation of the entire human brain and then use it to work exactly how a human brain does. It involves reconstruction and modeling of the billions of neurons in the brain which are so complex that it would require a billions of individual laptops to generate the entire simulation, hence, the project uses the Blue Genesupercomputer developed by IBMfor the same.

Today, the scientists are carrying out research to create an artificial brain that can think, respond, take decisions and store information. The main aim is to upload a human brain into the computer, which will be done with help of nanobots, which are so small that they can travel through our circulatory system, travelling through the spine and brain to monitor the activity of the *Central Nervous System*. These bots can provide interface with the computers and this way uploading the entire brain data into the computer. After death, this *virtual brain* can act as the man and this can be used for various situations like to continue the pending work, to decide on something based on his/her area of expertise etc.

the entire brain data into the computer. After death, this *virtual brain* can act as the man and this can be used for various situations like to continue the pending work, to decide on something based on his/her area of expertise etc.

Subham Sarda

CSE 4th Year, SIT

Srestha Roy (CSE, 2nd Year)

## Stock Android vs. Custom UI

Unlike iOS, Android is far ahead in terms of features, utility as well as customizability. Users can change the way their smart phones looks & tinker with its every possible features. With this respect Android users are divided into two teams – one who likes stock Android & one who likes custom UI. So without wasting much time, let's dissect each of its functionality.

### Stock Android

It is the purest, minimalist & most simplistic Android ever. Stock Android is the Google's vision of Android. It is unadulterated from any bloat ware & only has few Google apps installed. It is obvious that since Google handles the software, it is always updated to the recent version of Android & also has the latest security patches. It has somewhat less features & less customization options when compared to its Custom UI counterpart. But in one sentence Stock Android has guaranteed faster software updates, a faster software experience, a more secure software, and less bloat ware.

### Custom UI

"Android comes in various size & shapes" – Custom UI defines this statement. It is like having a skin on top of Android. TouchWiz for Samsung, MIUI for Xiaomi, VibeUI for Lenovo, EMUI for Honor, and OxygenOS for OnePlus are few examples of custom ROMS. It also suffers from various flaws like – late Android updates, lags in few cases, and loads of bloat ware. But some of its features can be very useful & time-saving for many users.OxygenOS in OnePlus phones has proved to be the best middle ground in this Stock Android-Custom UI situation.

Arghya Mitra

CSE 2nd Year,SIT

## Kleptography

Kleptography is the study of stealing information securely and subliminally (out of your most trusted system component: Tamper proof crypto-device or un-scrutinized crypto-software).

Types of information that we want to steal:

- Private decryption keys/signing keys
- Symmetric decryption keys
- Confidential data (industrial secrets, military secrets, national secrets)

Kleptography is dedicated to (re) searching ways of obtaining such data in an undetectable fashion with high security guarantees. It is a formal cryptographic study of backdoor designs (beyond the naïve common that are detectable-e.g. weak random generation)

### Goal of Kleptography:

To develop a robust backdoor within a cryptosystem that:

1. Provides the attacker with the desired secret e.g., private key of the unwary user)
2. Cannot be detected in black-box implementations(I/O access only to a hardware box/software) except by the attacker
3. If a Reverse Engineer (i.e.. not the attacker) breaches the black-box ,then the previously stolen information remains confidential (secure against reverse-engineering) .Ideally, confidentiality holds going forward as well.
4. The Successful Reverse-Engineer will learn that the attack is carried out,but will be unable to use the backdoor.

Arup Jyoti Dutta

CSE 3rd Year ,SIT

### *Seminar & Workshop*

1. *Image Processing & Pattern Recognition held on 27th &28th April,2018*
2. *Network Security and Cryptography seminar held on 13th & 14th August,2018*

# Publication Updates ..

## Paper publications by our faculties:

1. Debajyoti Guha and Rajdeep Chakraborty, " An Approach towards Design and Analysis of a Non Contiguous Block Cipher based Cryptographic System using Modular Arithmetic Technique (NCBMAT)",in Second International Conference on Computational Intelligence, Communications and Business Analytics (CICBA-2018), held on July 27 – 28, 2018, organized and sponsored by Kalyani Govt. Engineering College, India, IEEE, Computer Society of India, Springer CCIS series, ISSN 1865-0929 ISSN 1865.

2. Prasanta Kumar Roy, Krittibas Parai, Sathi Ball "Secure Anonymous Session Key Agreement between Trusted Users in Global Mobility Network", 1st International Conference on Contemporary Advances in Innovative & Applicable Information Technology (ICCAIAIT) -AISC series of Springer,Kingston Educational Institute, Berunanpukuria, Barasat March, 24-25, 2018

3.Prasanta Kumar Roy, Krittibas Parai and Abul Hasnat,"User Authentication with Session Key Interchange for Wireless Sensor Network" ,Second International Conference on Computational Intelligence, Communications, and Business Analytics (CICBA-2018)- Publication in Edited volume entitled "Methodologies and Application Issues of Contemporary Computing Framework" of Springer Nature.

4.Nabanita Mahata, Sayan Kahali, Sudip Kumar Adhikari and Jamuna Kanta Sing, "Local contextual information and Gaussian function induced fuzzy clustering algorithm for brain MR image segmentation and intensity in homogeneity estimation", doi. 10.1016/j.asoc.2018.04.031, *Applied Soft Computing, Elsevier*,vol. 68, pp. 586-596, 2018

# Glimpses of Students' Achievements

You have to dream before your dreams can come true

**Amrita Kundu**

Pass out Batch - 2017 CSE
Pursuing M.Tech
Indian Institute of Science(IISc), Bangalore

**Purbasha Majumder**

Pass out Batch - 2017 CSE
Pursuing M.Tech
Vellore Institute of Technology(VIT), Chennai

**Kumar Nishant**

Pass out Batch - 2017 CSE
Pursuing M.Tech
Indian Institute of Technology (IIT), Kanpur

**Raja Nand Sharma**

Pass out Batch - 2018 CSE

McAfee

**Mayank Mishra**

Pass out Batch - 2018 CSE

McAfee

**Gargi Sau**

Pass out Batch - 2018 CSE

intel

**Subham Sarda**

Pass out Batch - 2019 CSE

intel

**Debakar Roy**

Pass out Batch - 2019 CSE

intel

**Bikram Modok**

Pass out Batch - 2019 CSE

intel

Subham Sarda, Monideep Banerjee, Shubham Debnath, Bikram Modak, Aakash Saha (Team: Baka Coders) of CSE, 4th year participated in Smart India Hackathon 2018 organised by Ministry of Information and Broadcasting, Govt. of India at JECRC Foundation, JECRC University, Rajasthan, Jaipur, India on 29th March, 2018.

# Alumni Talk

### Tinku Sarda, (CSE: 2007-11); IT Analyst, TCS, Hyderabad

"After 2 years of my recruitment, I was posted at Belgium for 3 years to work as Team Lead for a major telecom company as a part of onsite assignment. Thanks to the college and all the faculty members who played a major role for the success in my professional career. To the juniors I'd suggest to have a strong hold on general aptitude and technical skills. In addition, be good at communicating your ideas to succeed in professional career.."

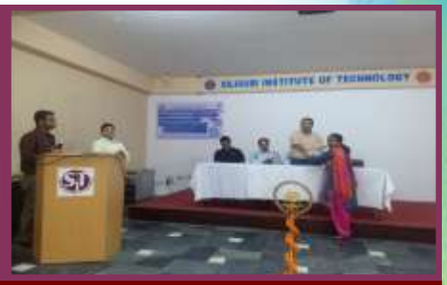
### Prem Agrahari, (CSE: 2007-11); Sr. Consultant, Infosys, Bengaluru

"There goes a saying "every successful thing in life has a gestation period". For us it was the most glorious, memorable, happiest 4 years of our lives. Every child when comes to this universe holds the hands of his/her parents to stand and rise in life. Like ways right from the beginning of our college life till the end, we had some great faculty members from our department who taught us, mentored us, and helped us to walk the path of our college life by holding our hands. It will be unfair to name anyone as it'll be like demeaning the effort of others who pruned us for the hard, sophisticated world outside the college. Words seem to be petty things when it comes to repay our faculty member's effort, love, dedication, commitment, hard-work to prepare us for what we are today. I'll just say that you all will always remain in our heart as long there is a single breath in our body. We will always be grateful to you for giving us moments which will always remain eternal for us life-long."

# Events Roadmap .....


Code Bites
22nd-23rd March 2018
Conducted by CES( Students Society)

**Two days seminar on "Network Security and Cryptography" on 13th and 14th** August,**2018**.



**Two days Workshop on "Image Processing & Pattern Recognition" on 27th& 28th April, 2018**.

1st Year Induction Programme,2018

Parent-Teacher Meeting (PTM),2018


Wall Magazine LOGIC 2018

HACKATHAN

Robotics Competition

Art Competition

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