

ATHARVA



EDITOR'S CORNER

Shrutika Kulkarni

The month of December marked new enthusiasm among students. It started with the Armed Forces Flag Day celebration which honours the Army, Navy and Air force of India. This prestigious day was celebrated in Symbiosis Centre for Information Technology in presence of an Army Veteran as a chief guest. SCIT also organized War Games event which was a cyber-warfare gaming event. Next the ISR Summit was conducted at SCIT. The topic was Re-Imagining Ecosystem Sustainability: Leaving No One Behind. It addressed issues that are plaguing the society, with a special focus on how individuals can band together and help effectively solve these troublesome situations.

Later, the students were welcomed with a theme reveal event of GRAFFITI- The annual fest of SCIT. Moving on, guest lectures were organized on data science, current IT trends, augmented and virtual reality by faculties from Mainz, Germany. The 3rd International Research Conference on Emerging Information Technology and Engineering Solutions (EITES 2019) was scheduled as two-day long knowledge transferring session and providing a platform to those who desired to share their research papers with the student community and other researchers.

Tune in to the magazine to know more about the events. The Web and Media team presents the 33rd edition of Atharva Magazine.

GRAFFITI THEME LAUNCH

Atash Sagar



The day had finally arrived, you could practically feel the energy in the atmosphere, after all the date was 16th of December the day of the theme launch of Graffiti 2019, the hustle and bustle of the past few weeks had led to this grand event. Students; seniors and juniors alike were excited for the unveiling of the theme, seniors here for the nostalgia and to see what theme the juniors had come up with to carry forward the legacy of graffiti, and the juniors, eager to prove their mettle, in the process setting up a grand event that truly exemplifies the twenty years of SCIT. The launch event started off at 7.p.m with our very own Symbats setting the stage for the evening with a slew of well-coordinated and energetic performances. It was the best possible way to get the audience pumped and ready for the evening ahead. Following the dance we had a duo crack us up with their well timed wit and spot on sense of humor, Sukhi and Akshay had us in splits, with their playful and charming act. Next in the line-up of performances was a display of in house singing talent, talented students took to the stage and enthralled us with their musical prowess, this act certainly help maintain the atmosphere of the event. MH-12, a duo of rappers spellbound us with their verses, this certainly fed off the hype that Gully Boy had created a year ago, additionally, the audience really enjoyed the lyrics that aimed to best represent the rap environment in India. And so, it was finally time for the Main Coordinators to unveil the theme for Graffiti; the theme; Venti Cosmo which combines Venti the Italian for twenty and Cosmo implying the limitless reaches and scope of expansion of space to perfectly represent the 20th year of SCIT and the celebration of the emotion that is Graffiti. The theme launch was followed by a mesmerizing musical performance by Nikhil and Gulshan who delivered an absolutely smashing performance. The perfect conclusion to the night came in the form of a DJ night where students danced their hearts out. All in all the event perfectly summed up the excitement and enthusiasm that comes with the stature of such an event as graffiti.

What's Inside

*GRAFFITI THEME LAUNCH
IN CAMUS
GUEST LECTURE
FACULTY BLOG
GUEST LECTURE
STAR ALUMNI
TEAM WNM*

WAR GAMES – THE CYBER WARFARE EVENT

Shyam Gawade



Heist consisted of a matchup between two teams namely, Red Team and Blue Team. Red Teams are entities dedicated to testing the effectiveness of a security program or infrastructure by emulating the tools and techniques of likely attackers in the most realistic way possible. The practice is similar, but not identical to, Penetration Testing, and involves the pursuit of one or more objectives—usually executed as a campaign. On the other hand, Blue Teams work on constantly defending the system against the Red Team actively detecting compromised vulnerabilities and patching them in real time.

The second event was Capture the Flag or CTF consisted of a series of challenges or puzzles that vary in their degree of difficulty that required participants to exercise different skillsets to solve. Once an individual challenge is solved, a "flag" was given to the player and they

submitted this flag to the CTF server to earn points.

In the event, a vulnerable system was set up. The Red Team will be tasked with finding these vulnerabilities and exploiting them while the Blue Team needs to detect these vulnerabilities within a specific time period and patch them.

The last event Jailbreak was an event involving an escape the room scenario. In this event, players were locked in a jail. They had to solve puzzles and challenges to find their way out.

All in all the event tested the mettle of the participants thoroughly and served as a cybersecurity awareness exercise. The success of the event lies in the fact that both the organizing team and the participants walked away from the event with a sharpened understanding of information security. This is one of the proactive methods by which we can actively increase our awareness against one of the most prominent threats present in the modern world.

On 14th December, War Games, a cyber-warfare event was organized at Symbiosis Centre for Information Technology. The theme was "Defend. Innovate. Disrupt". War Games was an open event. Anyone with an interest in computer security or an interest in solving puzzles could participate in the events. The key audience for the event was college students, corporate professionals and security professionals. It was held on the occasion of completion of ten years of Team Matrix. There were three events: Heist, Jailbreak and Capture the Flag.

ISR SUMMIT 2019

Akash Sagar



communities they are a part of are actually effecting change from the ground up; the speakers were Ms. Aditi Samudra Pais, an associate with The Robinhood Army and Mr. Sagar Singh, Founder, Ecowarriors India. Ms. Aditi detailed the audience about how The Robinhood Army an entirely volunteer based organization was actively working to alleviate hunger from the society by mobilizing and distributing surplus food thereby helping people lead better lives.

Mr. Sagar shed light on how climate change and global warming are impacting food production, water availability and the ecosystem at large. He called us all to action and made it very clear that adopting ecofriendly practices was the need of the hour for if we do not act soon, all may be lost and beyond repair. The presentation speakers were followed up by a panel discussion where we witnessed multiple perspectives on sustainability and how

individuals, corporations and the government can contribute to the improvement and achievement of sustainable development goals. The panelists for the day comprised of the following individuals Mr. Lelith Daniel, CSR, SIU SCOPE; Mr. Manoj Joshi, Health and Safety, TCS; Mr. Bhushan Patil, Director and Co-Founder, Sustainable Living Integrated Solutions Pvt. Ltd; Mr. Chinu Kwatra, Founder, Khushiya Foundation; Mr. Rahul Gholap, Director, Nisargraja Mitra Jiwanche.

All the speakers chimed in with their own unique takes on sustainability and we can approach sustainable development goals as individuals, communities, societies and the entire economy at large. The panelists also devoted a substantial amount of time to answering queries of the audience and concluded by asking us all to do our bit to save the environment.

On the 14th of December 2019, SCIT conducted the annual ISR Summit on the topic of Re-Imagining Ecosystem Sustainability: Leaving No One Behind. The annual seminar aims at addressing key issues that are plaguing the society,, with a special focus on how we as individuals can band together and help effectively solve these troublesome situations. Keeping in line with the theme of this year, there was a stellar line up of speakers who were bringing their strengths to the summit. Two presentation speakers spoke at length about the strength of togetherness and how the

IN CAMPUS

EITES 2019

Simran Gupta



The 3rd International Research Conference on Emerging Information Technology & Engineering Solutions (EITES 2019) was held on the 19th and 20th of December 2019 as a two-day long knowledge exchange session, providing a platform to those who desired to share their research papers with the student community and other researchers.

The function started with lighting of the lamp by Director Dr. Dhanya Pramod and Deputy Director Dr. Kanchan Patil and the dignitaries.

Mr. Sanjeev Nikore, the Chief Guest for the day, detailed the audience about the current state of advancement of technology and how it is becoming increasingly difficult to differentiate man from machine. The conference included around 20 research paper presentations over two days, with valuable insights from our keynote speakers and the proper amalgamation of knowledge and fun through mesmerising performances by Symbears and Ekalavya.

The presentations became more interesting with the back and forth question answer session among the panel and the presenters. Apart from the paper presentations, there were various aspects of emerging technologies covered by a couple of talented speakers. The conference started with the research paper presentation.

Speakers from different organizations and faculty from The University of Applied Sciences, Mainz, Germany shed light on the real-life applications of various emerging technologies and how it can improve the quality of education. The faculty from Germany were Dr. Gunther Piller, Dr. Anett Mehler and Dr. Bernhard Ostheimer.

They also emphasized the increasing difficulty in recognizing the difference between humans and machines; spoke at length about the need for balance and correct use of technology.

Keeping the performance along the lines of the theme of the event, our very own Drama team brings out the difference in the lifestyle of people before and after the advancement in technology and even the Symbears dance performance was about the transitions in the entertainment industry over the years.

GUEST LECTURE

AUGMENTED AND VIRTUAL REALITY

Divya Pichumani



On 18th December, a guest lecture was conducted for the senior batch on Augmented and Virtual Reality. The faculty was Dr. Anett Meher, Dean School of Business, University of Applied Sciences, Mainz, Germany. She emphasized on the roles of augmented and virtual reality in our day to day life.

She explained the concepts of virtual reality and augmented reality. She also explained

the difference between them with various examples. Augmented reality (AR) is an interactive experience of a real-world environment where the objects that reside in the real world are enhanced by computer-generated perceptual information via multiple sensory modalities via the sense of touch, vision, smell hearing and somatic senses.

Augmented reality finds its applications in archaeology, manufacturing, etc. Virtual reality (VR) is a simulated experience that can be similar to or completely different from the real world. Applications of virtual reality can include entertainment and educational purposes or training purposes, etc.

The examples and applications of augmented reality and virtual reality given by Dr. Anett Meher helped the audience to know the difference between the two technologies.

In the end there was a question and answer session. Dr. Anett cleared the doubts of the audience with respect to the applications and the differences of virtual and augmented reality. The session gave the audience deep insights on the modern technologies and how they are currently affecting our life as well as how can they influence our lives in future.

GUEST LECTURES

ARMED FORCES DAY CELEBRATION

Ashutosh Ghodasara



When he was approached by the ISR committee students to give a speech about his experience, he was not sure how he'd put 35 years of his life in front of the students in 35 minutes. This is why he planned for it to be an interactive session where the students can ask anything they would like to know.

He also shared some of his experiences from his days back in the army and how one of his reasons of joining the army was because he did not like to study.



7th December, also known as Armed Forces Flag Day, is a day that is dedicated towards collection of funds from people of India towards the welfare of the Indian Armed Forces personnel. This prestigious day was celebrated in SCIT and it was Brigadier Kishor K. V. Kanzhode who blessed the students with his presence.

Brigadier Kishor K. V. Kanzhode is a war veteran and has spent 35 years in the army after which he was associated with Symbiosis International University for almost 10 years.



It wasn't just this but he also loved the uniform of the army.

He then asked the students as to what they feel are the important things that they should get from a job. There were many factors that the students felt were important to them after which he said that all these things are easily offered in the army. He also listed down the websites where the students could find more information about joining the army. It was a great session and the students were really grateful that they got to share the experiences of one of India's "Jawaan".

A VIEWPOINT ON CYBER SECURITY

Shyam Gawade



He has worked with major corporate leaders like KPMG and Deloitte and has a wealth of experience in the domain of cyber security. He has completed various certifications like Splunk Power User, Qualys Certified Specialist, ITIL Foundation V3, CISA granted by ISACA and BS7799 LI granted by British Standard Institute. This has given him a holistic and in depth view of the security domain.

Mr. Himanshu discussed the various aspects of security. He mentioned about the changes in security trends in the last decade. He told about the business trends which are focused on cloud, internet, mobility and Artificial Intelligence. Since today's business relies heavily on the internet, attackers are on a continuous vigil to grab sensitive corporate data which can be worth millions or billions of dollars.

He mentioned that today security aspects have changed from "Compliance"

which was prevalent in the last decade to "Data Protection Centric". He mentioned about the importance of continuous monitoring. Today Signature and Role based detection methods have become older and the new techniques to detect threats are based on algorithms in Machine Learning and Predictive Analytics. He also mentioned that access control methods have changed from Least Privilege to Adaptive Access.

He mentioned in depth about the various types of organizations like Service Based, Advisory Based, Vendor and Market Research Specialists. He mentioned about Security Architecture and Process Framework and Kill Chain Framework.

At the end of session, he answered the questions asked by students in detail. The students definitely got to learn a lot about the current security trends.

A guest lecture was conducted on Cyber Security on 10th December 2019 at SCIT. The key speaker was Mr. Himanshu Porwal who is a Cyber Security Consultant at TCS. He has completed his MCA and has a corporate experience of over 18 years. His core skills are security strategy, SOC solution, Cyber Security, Breach detection, Security Architecture, Risk Management, Monitoring and Incident Response, IT Controls Audit and Compliance Assurance, Security KPIs and SLA.

GUEST LECTURES

BIG DATA- ITS CORPORATE USE AND RESEARCH EFFORTS

Ashutosh Ghodasara



The University of Applied Sciences has active research programs going on wherein the employees and students try to interact and solve problems with different companies. The fields where they are currently focusing on are Data Mining and Machine Learning. Dr. Gunther then covered the various Big Data exploration strategies and methods.

Along with this, he also covered the strategies and influencing factors for big data exploration which are essential.

The DS&DA batch had a guest lecture scheduled on 18th Dec. The guest was Prof. Dr. Gunther Piller who is from the University of Applied Sciences, Mainz, Germany. Dr. Gunther started off the guest lecture by showing the students where exactly Mainz is located and its surrounding landmarks. Dr. Gunther has been a professor at this university since 2008 and told us how this university is different from large universities like the Technical University of Munich (TUM).



He told the students how a research gap is first identified after which the research is initiated.

Dr. Gunther had also recently done a survey that included 10 companies that were located in Germany. The main question that Dr. Gunther asked the different companies was how Big Data is being utilized by those companies. Each company was from a different sector and hence, they all had their own different views when it came to Big Data. Towards the end of the session, Dr. Gunther took time to answer the various questions of the students.

CURRENT TOPICS IN IT SERVICE MANAGEMENT

Shyam Gawade



Also, the topic is a subject for the students, which helped the students to understand the topic in a better way. He also discussed about FitSM which is framework of ITSM which can be helpful for small and medium businesses. In other words, it a lightweight ITSM. He also discussed about the various levels of FitSM.

A guest lecture was conducted on 18th December on the current topics in IT Service Management. The guest lecturer was Professor Dr. Bernhard Ostheimer who is Head of the Department Business Informatics / Information Systems at University of Applied Sciences at Mainz in Germany. He began with an introduction of himself and gave a brief overview of his country and university.

He gave an introduction of ITSM which is quite relevant in today's world. ITSM stands for IT Service Management.

He also discussed about Industry 4.0, Big Data, etc. He talked about Service Level Agreement which of key importance in the IT world and about various ISO standards.



In the end, there was a question and answer session. The students got a chance to clear their queries with respect to the lecture conducted. Dr. Bernhard answered all the questions of the students in a succinct manner. The students had a unique experience of a guest lecture from a foreign faculty who has an in depth knowledge of the IT technologies and current IT trends.

QUANTUM COMPUTING IN THE NISQ ERA

Dr. Manshaar Pande



This is the seventh in a series of blogs that I will be writing for everyone to get a basic understanding of this immensely important research field which is poised to become mainstream in a few years and significantly impact our daily lives.

In my previous blog, I gave an overview of Quantum Supremacy which has provided a fresh impetus to carry out further applied research and solve real-life industry use cases in Quantum Computing. It is now clear that quantum computing has moved out of the realm of pure research and is transitioning into an industrial technology.

In this blog I will provide an overview of the type of quantum computers in operation today and the kind of problems that can be solved using them.

Figure 1 above, is a graph which depicts the physical error rate in quantum computers as a function of the number of physical qubits.

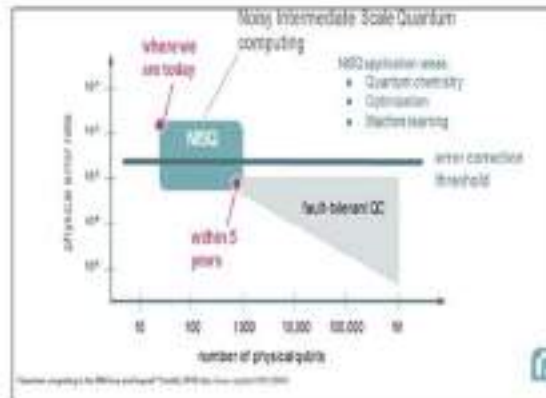


Figure 1: The physical error rate as a function of the number of physical qubits for quantum computers [1]

Figure 1 above, is a graph which depicts the physical error rate in quantum computers as a function of the number of physical qubits. The first thing that we need to understand is that almost all of today's quantum computers have been built with around 50-100 qubits. While I will talk about physical realization of quantum computers in a later blog, the most important aspect of building a quantum computer is to be able to maintain the quantum state of a qubit for a significantly long duration (by significantly long duration I mean "at least 1 second or more").

This can be understood as follows: Let's assume that we are running a computer program or the quantum computer's operating system is executing a particular low-level command. During the execution, the assumption is that if a qubit is in state 0, the program executes the command with this assumption. However, instead of being in state 0, the qubit is actually in state 1. This is a physical error, which results in a wrong execution output. This error happens because maintaining the state of a qubit is an extremely challenging task in today's quantum computers. Any minor external thermal noise or disturbance (such as physical vibration) can cause the qubit to flip its state.

If we refer to the figure 1 above, it depicts where we stand in terms of the number of qubits that today's quantum computers have and what are the corresponding error rates. Hence the term Noisy Intermediate Scale Quantum (NISQ) computing, which is shown as the blue rectangle in the above figure. This is an era of quantum computers, where the error rates are around 10^{-2} - 10^{-3} . This means that out of every 100 (or 1000) qubits which are in the correct state, one qubit is in error. Today's quantum computers do not have too much of error correcting mechanisms available, since the number of qubits available itself is low. Therefore, it is difficult to build a fault-tolerant system which would be robust enough to handle such errors.

Even if we have such noisy and error prone quantum computers, the most important positive aspect to note is that we have now, reached an inflection point, where the 50-100 qubit quantum computers have the ability to solve many problems or use cases, which today's digital computers are unable to handle.



BIT



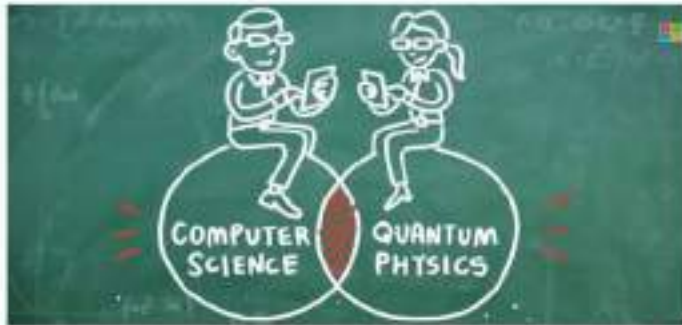
QUBIT



FACULTY BLOG

QUANTUM COMPUTING IN THE NISQ ERA

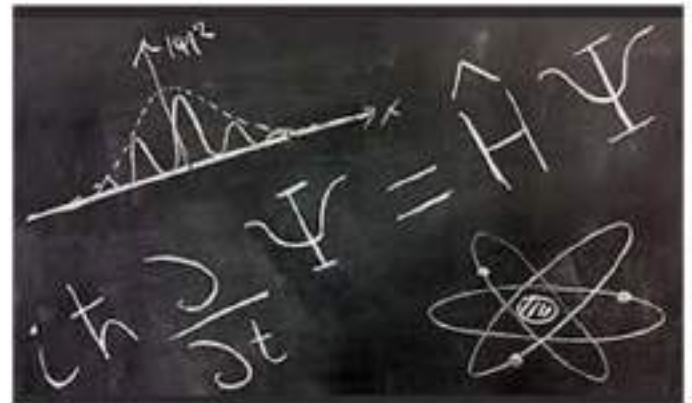
Dr.Mandaar Pande



The low hanging fruits or problems that can be addressed are in areas of Machine Learning, Quantum Chemistry and Optimization. As John Preskill says in his wonderful article [1], which I have given as a reference below, **"the 100-qubit quantum computer may not change the world right away – we should regard it as a significant step toward the more powerful quantum technologies of the future. Quantum technologists should continue to strive for more accurate quantum gates, and eventually, fully fault-tolerant quantum computers."**

References:

1. Quantum Computing in the NISQ era and beyond, John Preskill, <https://arxiv.org/abs/1801.00862>, July 2018.



STAR ALUMNI

PIYUSH CHATURVEDI

Ashutosh Ghodasara



The Star Alumni for this month is Piyyush Chaturvedi who is the Director of Digital Data Capabilities and Experimentation at American Express. He also worked as System Analyst for American Express where he was responsible for information-based capabilities and analytics for US customer marketing for US customer marketing

Mr. Piyyush is a passionate data and analytics professional with 11+ years of expertise in developing analytical and big data capability solutions for business problems in marketing and digital functions of financial services industry. After completing his B.E in computer engineering from Hemchandracharya North Gujarat University, Mr. Piyyush

joined Symbiosis Centre for Information Technology to pursue an MBA in IT Business Management. He was a part of the Web & Media team during his time in the college, and the recipient of the 'Best Performance in MBA' on the basis of high academic performance in his chosen specialization. Mr. Piyyush also holds the 'American Express & Harvard Certificate in Leadership Excellence' from Harvard Business Publishing. We are immensely proud to call him the Star Alumni of the month of January.

TEAM WEB AND MEDIA

FACULTY MENTOR



Prof. Vidyaoti Ramteke

STUDENT MEMBERS

 Abhishek Deshpande Designer	 Akash Raje Writer	 Alan Puro Social Media	 Anand Yashwantrao Photographer	 Anand K. Vaidya Designer	 Aravind Manjappa Video Editing	 Anshu Khapkar Photographer
 Akhilak Godavari Writer	 Anjali Pandey Designer	 Rishi G. Dhore Photographer	 CP Shrivastava Web Development	 Rohit Ananta Web Development	 Dhruvi Lalit Writer	 Divya Shikhar Writer
 Divyanshu Inkar Web Development	 Nishita N. Wagle	 Hetal Nishita Designer	 Jaya Chaudhary Web Development	 Kishoreyaji Vijaya Shankar Designer	 Madhura G. Chavhan Web Development	 Madurika Singh Web Development
 Shreyas Kasa Writer	 Akash Rajpal Video Editing	 SRIHARSH AKSHAY Social Media	 Shikha Madhavi Photographer	 Shamir Indira Ray Designer	 Vijay Kumar Video Editing	 Shruti Singh Writer
 Ishita Lalit Video Editing	 Priya Das Web Development	 Prerona Doshi Social Media	 Prerona Rajani Photographer	 Rishi Lakshmi Designer	 Rishi Mureshi Photographer	 Rishi Singh Web Development
 Rishi Chaudhari Social Media	 Rishi Ravi Photographer	 Rishi Prasad Jadhav Photographer	 Rishi Anant Designer	 Rishi Jain Video Editing	 Rishi Sharma Social Media	 Rishi Singh Photographer
 Rishi Vaidya Designer	 Rishi Kalyan Video Editing	 Rishi Singh Designer	 Rishi Kulkarni Writer	 Rishi Vaidya Social Media	 Rishi Sharma Web Development	 Rishi G. Chavhan Designer
 Rishi Singh Photographer	 Rishi Singh Writer	 Rishi Singh Social Media	 Rishi Singh Designer	 Rishi Singh Video Editing	 Rishi Singh Photographer	 Rishi Singh Photographer