



Department of Information Technology presents

# identITy

## Half Yearly Newsletter

June 2021

Volume 8, Issue 1

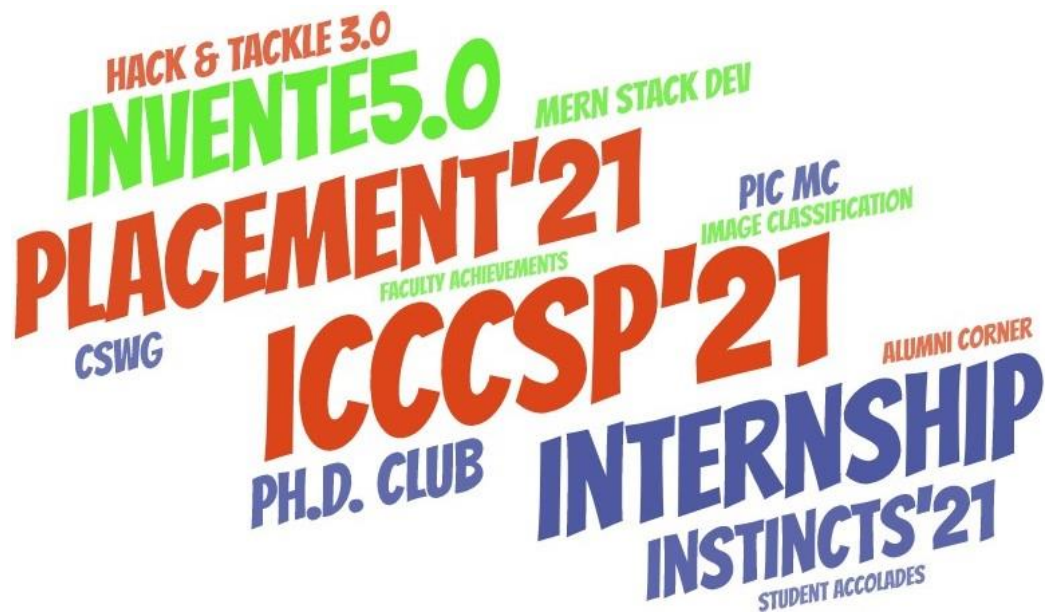
### Sneak Peek

#### In This Issue

- Inter and Intra Department Events
- Insights into Placement & Internship Activity
- Student Accolade
- Faculty Corner
- Technical Article
- Non-Technical Article
- Alumni Corner

#### Contact Us

it.hod@ssn.edu.in  
skarthika@ssn.edu.in



At this juncture, we would like to express our sincere, heartfelt gratitude to the management, students and faculty for their valuable contributions, constant encouragement and support.

Wishing you an engaging reading!!!

Welcome

Aboard

## Hearty Welcome



We, the Department of Information Technology welcome our Head of the Department **Dr. Chandrabose Aravindan** who is a Professor at SSN College of Engineering, since July 2002. He received his B.E. degree with honors in Computer Science and Engineering from National Institute of Technology, Trichy, India, in 1986 and M.E. and Ph.D. degrees in Computer Science from Asian Institute of Technology, Bangkok, Thailand, in 1990 and 1995, respectively. His post-doctoral research was with the University of Koblenz, Germany, during 1995-1997, where he worked as a Research Scientist on a funded project in the area of disjunctive logic programming. He has been in academia as a professor of Computer Science since 1998. He is a member of the Machine Learning Research Group of SSN and his research interests include machine learning, pattern recognition etc. He is also a member of several professional bodies.



### We are glad to welcome

**Mr. Ashwinth Janarthanan and  
Dr. K.S. Gayathri**

**to the IT faculty family**

**Mr. Ashwinth Janarthanan**, Assistant Professor, has completed his M.Tech from Anna University, MIT campus and is on the verge of completing PhD from the same university. His area of interest includes Meta-Heuristic Intelligence, Bio inspired evolutionary optimization etc.



**Dr. K. S. Gayathri**, Assistant Professor has completed her PhD and M.Tech both from Anna University. She has a total teaching experience of 20 years. Her area of interest includes Artificial Intelligence and Machine Learning.

## 5th International Conference on Computer, Communication and Signal Processing

The **5th International Conference on Computer, Communication and Signal Processing (ICCCSP 2021)** was held during 24<sup>th</sup> and 25<sup>th</sup> May, 2021. The vision of the event is to shed the spotlight on the recent trends in the research areas of Computer Science, Communications, and Signal Processing. ICCSP 2021 was organized by **Dr. T. Sree Sharmila, ASP, Dr. P. Vasuki, ASP, Dr. T. Shanmugapriya, ASP, and Ms. J. K. Josephine Julina, AP** and was technically co-sponsored by IEEE Madras Section, IEEE Signal Processing Society, IEEE Computational Engineering Society, and IEEE Communication Society.

Highlights of  
Department  
Events



The 2021 edition of the annual conference has a special focus on AI in Health Care leveraging AI techniques in the Healthcare domain. AI in Healthcare, as a highly interdisciplinary and dynamic field, behind the screens, is the cardinal reason for the growth and development of biomedical research and autonomous medical applications. This event brought together researchers, students, and practitioners who are interested in Biomedical signal processing, Medical Applications, Drug discovery, Data Engineering, Data Mining, Statistical Learning and Modelling, Machine Learning, Deep Learning, Visualization, and Predictive Analytics, by creating a forum for sharing knowledge and ideas motivated by the diversity of experts spread across the vast geology. The event provided a forum for the fellow researchers across the globe to brainstorm and innovate novel ideas.



Dr. T. Sree Sharmila, ASP

ICCCSP'21



Dr. P. Vasuki, ASP

### Keynote Speakers:

1. **Dr. M. Sohel Rahman**, Professor, Department of CSE, Bangladesh University of Engineering & Technology (BUET), delivered a talk on *Controlling Malaria with Agent-Based Modeling*.
2. **Dr. W. Schuller**, Professor & Head of the Full Professor & Head of the Chair of Embedded Intelligence for Health Care and Wellbeing, University of Augsburg, Germany, Professor, Imperial College London, UK, delivered a talk on *Wear to Care: Worries and Remedies of AI in Mobile Health*.
3. **Dr. Dimitri Van De Ville**, Professor of Bioengineering, Fellow IEEE, Institute of Bioengineering/Center for Neuro-prosthetics, EPFL - Ecole Polytechnique Fédérale de Lausanne, Professor, Department of Radiology and Medical Informatics, University of Geneva, delivered a talk on *Making sense out of restless brain activity with computational neuro imaging*.
4. **Dr. Felix Burkhardt**, Head of Communication Science, Technical University, Berlin, delivered a talk on *Natural voice interfaces: do we get along with machines? -To make the Human Machine Interface more natural*.

The participants contributed to the conference by submitting their original articles. The theme attracted enormous response from the research community which reflected in the quality and quantity of the papers received. The conference saw a total of 245 paper submissions, including 75 accepted papers and 53 registered papers. The paper presentation session of the Conference was divided into 10 tracks and each track were chaired by respective faculty experts.

Parallel Track Session 2

26:41 Request control Leave

### III. Literature Survey

ICCCSP 2021

Sl. No.	Paper	Publisher & Year	Methodology
1.	Facial action coding system: A technique for the measurement of facial movement	Consulting Psychologists Press, CA, 1978.	Here, Facial Action Coding System (FACS) technique for mood recognition was proposed. It was observed that each facial expression is a mix of a number of Action Units that is in FACS. It shows that the movement of facial muscles is matched to a particular facial expression.
2.	Facial Expression Recognition Using Geometric Landmark Points and Convolutional Neural Networks	IEEE Xplore, ICIRCA, 2018	Here, an alternative method was proposed that is having geometric features of face and have utilized the facial landmark detection method for extracting facial features and neural network for classification. Datasets used were MMI, MUG, JAFFE and CK+ for testing the system efficiency. [8]
3.	Emotion recognition using facial expressions	Procedia Computer Science, Vol. 108, 2017	It shows the results of classification emotional states with the help of facial expressions. The features have been for 3-D face model. The classification features were realized utilizing KNN with 70% accuracy and MLP with 73 upon natural data division. [15]

Meeting now 25:22

Participants

In this meeting (23)

- Josephine Juliana
- T68, Vasanthi R (Guest)
- Aditya Kaushik (Guest)
- Aditya Vikram Choudhary (Gu...)
- Aishwarya Kendle (Guest)
- Anit (Guest)
- Aniket Ghandge (Guest)
- Amab Dey (Guest)
- Arul Kumar V
- Arun Lakshman A

Amab Dey (Guest)

Arul Kumar V

Arun Lakshman A

Mohanavalli Kimanj

Amab Dey (Guest)



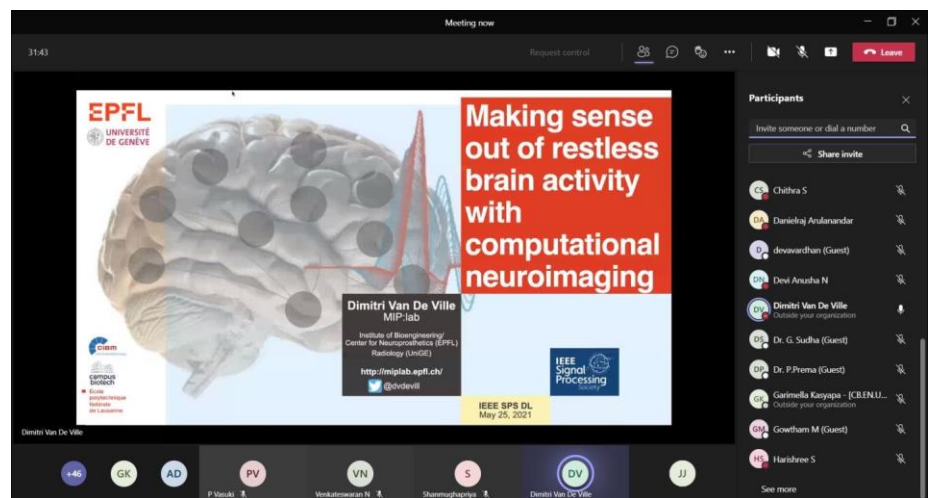
Dr. T. Shanmughapriya, ASP

ICCCSP'21

## Paper Presentation Sessions:

### Day 1 (24.05.2021)

- Session1: Machine Learning - Dr. N. Sripriya, ASP and Dr. S. Uma Maheshwari, AP
- Session 2: Machine Learning - Dr. S. Mohanavalli, ASP, Dr. N. Radha, AP, and Dr. V. Arul Kumar, AP
- Session 3: Computer Vision - Dr. S. Poornima, ASP, and Dr. R. Swathika, AP
- Session 4: Computer Vision - Dr. R. Srinivasan, Prof., Dr. I. Joe Louis Paul, ASP, and Mr. J. Ashwinth, AP
- Common Track: Machine Learning - Dr. S. Karthika, ASP, Dr. K. R. Uthayan, ASP, and Dr. J. Sofia Jennifer, AP



### Day 2 (25.05.2021)

- Session 1: Antenna & Communication - Dr. S. Esther Florence, ASP, ECE and Dr. Ram Prabhu, ASP, ECE
- Session 2: Bio-Signal Processing - Mr. V. Sivamurugan, ASP, and Dr. N. Sripriya, ASP
- Session 3: IoT & ML - Dr. S. Sasirekha, ASP, Dr. A. Sandana Karuppan, AP, and Mr. J. Ashwinth, AP
- Session 4: Networking - Dr. S. Chithra, ASP, Dr. E. M. Malathy, ASP, Dr. V. Arul Kumar, AP, and Dr. K. Kabilan, AP
- Common Track: Deep Learning - Dr. A. Shahina, Professor, Dr. N. Radha, AP, and Dr. S. M. Jai Sakthi, ASP, Vellore Institute of Technology



Ms. J. K. Josephine Julina, AP

The event served as an excellent platform for the participants to showcase their original ideas and comprehensive technical research and also exchanged views on the future research directions in various fields. The papers thus submitted by the participants not only contributed to the success of this event but also to the advance of Science and Technology, in general.





Dr. T. Sree Sharmila, ASP

# Hack & Tackle 3.0



Ms. J. K. Josephine Julina, AP

## Hack & Tackle 3.0

The Department of Information Technology in association with IEEE Student Branch, SSN College of Engineering organized Hack & Tackle 3.0, A 24-Hour Hackathon during 15 & 16 March 2021 in online mode. Hack & Tackle, an intra and inter-college event, has two phases namely Ideation phase (Phase I) and 24-hour Hackathon phase (Phase II). The problems were based on five different tracks namely environment, healthcare, women's safety, agriculture, social welfare and a few in opentrack.

### Phase I

The registration for phase I of this event began on 20<sup>th</sup> January 2021 and around 280 problem statements were received from 45 colleges across India. The proposals submitted by these teams underwent a review process and 75 teams were shortlisted for phase II.

### Phase II

The registration for phase II of this event began on 01<sup>st</sup> March 2021. A total of 50 teams consisting of 133 students from various disciplines participated in the event virtually. The 51 teams were divided into 10 panels and around 25 expert members from Mr. Cooper, Qualcomm, Pidilite Industries Pvt Ltd and FORMCEPT Technologies and Solution guided the teams by providing valuable suggestions for improvement and evaluated team's performance.

### Organizers

The following faculty members organized the event:

- Dr. T. Sree Sharmila, Associate Professor
- Dr. V. Thanikachalam, Associate Professor
- Ms. J. K. Josephine Julina, Assistant Professor

The event was sponsored by Mr. Cooper, IEEE Young Professionals and IEEE Education Society.





Dr. V. Thanikachalam, ASP

Hack &  
Tackle 3.0

### Jury members

Sl. No	Jury member	Designation
<b>Mr. Cooper</b>		
1	Mohan Babu Balachandran	Vice President of Engineering
2	Subash P	Senior Software Engineer
3	Riyaz Ahmed N	Senior Software Engineer
4	Jegan	Senior Software Engineer
5	Chairma Prabhu	Senior Software Engineer
6	Prabakaran K	Senior Software Engineer
7	Kishore Ravichandran	Software Engineer
8	Vignesh Raghuraman	Software Engineer
9	Gowtham K K	Software Engineer
10	Hemantha Rajan V	Software Engineer
11	Subhadra N S	Software Engineer
12	Harini Priya K	Software Engineer
13	Jarwish Roshan J	Software Engineer
14	Vishalini Jothilingam	Software Engineer
15	Riya H Maniar	Software Engineer
16	Padhmanathan R	Software Engineer
17	Fazul U	Team Leader - Helpdesk
18	Shanthi Mari B	Helpdesk Engineer
19	Prabhu S	QA lead
20	Anandkumar Karthikeyan	QA Lead
21	Gowtham Padmanathan	Senior QA Engineer
22	Santhosh Kumar G	QA Engineer

# Hack & Tackle 3.0

<b>FORMCEPT Technologies and Solutions</b>		
23	Ankayarkanni Rajendran	Software Engineer
<b>Qualcomm</b>		
24	Sudharshan R	Engineer, Modem Firmware
<b>Pidilite Industries Pvt Ltd</b>		
25	Jayaram Hariharakrishnan	Area Sales Manager

## Winning Teams of Hack & Tackle 3.0

<b>Team name</b>	<b>Institution</b>	<b>Problem title</b>	<b>Prizes won</b>
SLON	Sri Sivasubramaniya Nadar College of Engineering	Early warning system for prevention of Human- Animal conflicts in remote areas	I - Rs. 10,000/-
Kingsman	S A Engineering college	Social distance monitoring using AI based drone	II - Rs. 7,000/-
Vision Engineers	Bannari Amman Institute of Technology	AI Janitor	III - Rs. 3,000/-
The Archons	St. Joseph's College of Engineering	Libra Suite	Consolation 1 - Rs. 2,500/-
Crewmates	VIT Chennai	Virtual Reality in Therapy	Consolation 2 - Rs. 2,500/-



# Hands on Training on PIC MC



Dr. E. M. Malathy, ASP

## Hands on Training on PIC Microcontroller

**Dr. E. M. Malathy, ASP, IT**, along with Dr. L. Suganthi, ASP, BME Department, Dr. S. Arun Karthick, ASP, BME Department, organized the Hands-on Training on PIC Microcontroller for III year students, Department of BME on 4th and 5<sup>th</sup> March 2021.

The virtual workshop was an eye-opener to understand the new development boards for Microcontroller and Embedded System Design Lab.

The virtual training focused on the following points:

- Introduction to PIC16F877A Microcontroller Programming and Experimental Programs in C language for PIC
- Hands on Training in Basic Digital Output Control Programming using PIC Microcontroller. –with Demo
- Hands on Training in External Analog Input Programming using PIC Microcontroller and Exercise: for Student related to this training.
- Hands on Training in DC Motor interface Programming using PIC Microcontroller
- Hands on Training in Serial Protocol (UART) Programming using PIC Microcontroller Program

The second slot of the virtual training focused on Training on ARM Microcontroller for III year students, Department of BME held between 29-03-2021 and 30-03-2021

- The Training provided hands-on ARM based processor to learn and give insight into interfacing Various LED/LCD to Processor.
- It enabled students to do demo on Switch control with microcontroller.
- Learn hands on Training in Serial Protocol (UART) Programming using ARM Microcontroller Program.

# STTP ON Cyber Security Tools

## National Level Virtual Short-Term Training Program on Cyber Security Tools

The program was organized by Dr. N. Bhalaji, ASP, Dr. S. Chithra, ASP, Dr. S. Karthika, ASP and Dr. T. Shanmugapriya, ASP and witnessed an active participation from 75 students and faculty members.

### Day 1: 30-03-2021

#### Session 1:

**Dr. Sarat Chandra Babu, Executive Director at SETS, Chennai** has inaugurated the STTP on Cyber Security tools with his keynote speech on "Convergence of AI and Cyber Security". He has given awareness to cyber threats and their impact on various applications. He elaborated insights on various AI algorithms and deep learning approaches that provide a way to address the challenges related to Cyber security. Also, he has delivered his talk on converging major domains of AI and Cyber Security to apply a deep learning approach for addressing the security issues. This session was a good take away for the participants and was an orientation towards the convergence of AI for cyber security applications.

#### Session 2:

**Mr. Karthik, an industry expert in cyber security** explained the nuances of OWASP and its importance. He emphasized vulnerability is a hole or a weakness in the application, which can be a design flaw or an implementation bug, that allows an attacker to cause harm to the stakeholders of an application. Stakeholders include the application owner, application users, and other entities who rely on the application.

He listed the following as examples of vulnerabilities:

- Lack of input validation on user input
- Lack of sufficient logging mechanism Fail-open error handling
- Not closing the database connection properly

### Day 2: 31-03-2021

#### Session 1

**Mr. R. Balaganesh, Director, Cognizant Technology Solutions,** gave a talk on Industry based Internet of Things security. He explained the different methodologies deployed in industries to safeguard the internet of things. With 2020 firmly underway, the exponential growth of Industrial IoT is on track with recent predictions. But as the opportunities within this market- particularly in cloud-based, third-party



Dr. N. Bhalaji, ASP

## STTP ON Cyber Security Tools



Dr. S. Chithra, ASP

service providers - continue to expand, one issue stands out less as a barrier to growth than it is a red flag not to be ignored. That red flag is the ever-present requirement of security. Device proliferation gaining speed, the problem may get worse before it improves.

### Session 2

**Mr. Uma Shankar, Head Competency, Rapid Qube Digital Solutions, Mumbai and Chennai,** delivered a talk on introduction to enterprise-based blockchain and gave a demo on how blockchain projects are developed using the Hyper ledger fabric. Hyper ledger Fabric is an open-source framework for making private (permissioned) blockchain business networks, where identities and roles of members are known to their members. The network built on fabric serves as the back-end, with a client-side application front-end. SDK's are available for Nodejs and Java to build client applications, with Python and Golang support coming soon.

### Day 3: 01-04-2021

#### Session 1

**Mr. Ishan Roy, Head, Blockchain & Center of Excellence for emerging technologies at Tamil Nadu e-Governance Agency** presented a talk on blockchain in e-governance. The speaker started with the basics of blockchain, discussed why governments need blockchain followed by how the government acts as an enabler for the blockchain.

Interesting case studies of blockchain used across the country were presented during the talk. A few to list are European blockchain services infrastructure (ESBI), Singapore's openCerts, Smart Dubai office.

Mr. Ishan Roy discussed creating platforms, where core services of the platform can be leveraged by uses cases on the top layer. Last but not the least, Nambikkai innaiyam a permissioned blockchain, an initiative by the Tamilnadu government, where all government and public sectors will be able to leverage the blockchain framework was discussed.

#### Session 2

**Mr. Vignesh, a Cyber Security Expert and Professional Ethical hacker** presented an interesting talk in the afternoon session. The session comprised of the live demo of the Nessus Tool exploring the various settings available for doing the vulnerability audit. The session covered various advanced scanning options and configurations available in the Nessus tool like scanning for a particular CVE, setting up of proxy etc., Apart from this, Github resources and open source tools available for vulnerability audits like Metasploit Framework, Scapy, Wireshark and much more were discussed. The talk concluded with an interactive question and answer session.



Dr. S. Karthika, ASP

# STTP on Cyber Security Tools



Dr. T. Shanmughapriya, ASP

## Day 4: 02-04-2021

### Session 1

The focus of the day was to introduce the participants to Open Source Intelligence (OSINT) and its associated tools. The forenoon session was handled by **Dr. S. Karthika, Associate Professor, IT, SSN CE**, and it was an introductory session to perform the basic OSINT upon a person using vital attributes like name, mail id, contact number etc. The image search was also demonstrated using reverse engineering tools.

### Session 2

The afternoon session was a continuation of OSINT using the Maltego tool that was demonstrated by **Mr. Prakateesh, Senior Cyber Security Consultant at Ernst and Young LLP**. He demonstrated the ways of crawling the web using the OSINT framework through various transforms and entities in Maltego.

## Day 5: 03-04-2021

### Capture the Flag (CTF) workshop and competition

The CTF event is similar to treasure hunting. The workshop and competition were handled by **Ms. R. Santhya, Founder and Director of ABG Cyber Solutions, Coimbatore**, and **Mr. Ashok Kumar Mohan, Senior Forensic Analyst, Cyberonion**. The participants were introduced to the methods in which a bug or clue in the given challenge can be identified using the various techniques that were discussed in the previous sessions and detecting the correct flag. In the afternoon session, the faculty members and students participated in the competition and the winners were awarded cash prizes. First and Second prizes were bagged by SSN team and the third one went to PSG team.

Cyber security tools like Nessus, Maltego and Hyperledger were exposed in this STTP.





*Dr. N. Radha, AP*



*Dr. A. Sandana Karuppan, AP*



*Dr. V. Arulkumar, AP*

# MERN Stack Development Workshop

## One Day National Level Workshop on Demystifying MERN Stack Development

The virtual national level workshop on MERN stack 2021, organised by IT department, was successfully conducted with 150 participants during March 25, 2021. The workshop aims to provide an overview and development skills for full stack web applications. MERN stack is a web development framework comprising a set of technologies that consists of MongoDB, ExpressJS, ReactJS and NodeJS as its working components. The workshop contents were very much useful for curious students and developers from any discipline exploring these avenues and would like to use MERN stack framework on web development.

The workshop had three sessions handled by industry people and alumni of IT department.

**Session 1:** 9.00am -10.30am, Mr. G. M. Dinesh, Technical lead Mr. Cooper, Chennai. He delivered on the title "Building micro services with NodeJS". This session opened-up the participants on how to build micro services using NodeJS.

**Session 2:** 11.00am - 12.30am, Ms. Harini Priya, Full stack developer, Mr. Cooper, Chennai. She presented on "Frontend development with ReactJS". This session had hands-on in ReactJS

**Session 3:** 1.30pm - 3.00pm, Mr. Aneerudh, Full stack developer, Mr. Cooper, Chennai. He presented on the title "working with MongoDB".

This national level workshop was coordinated by Dr. N. Radha, Dr. A. Sandanakaruppan, Dr. V. Arulkumar, Assistant Professors.





Dr. T. Sree Sharmila, ASP

## Workshop on Image Classification



Dr. J. Sofia Jennifer, AP

## Two Day Workshop on Image Classification Using Deep Neural Networks

The department of Information Technology, SSN College of Engineering in association with SSN IEEE Student Branch and IEEE Computer Society Student Branch Chapter organized a two-day online workshop, "Image classification using deep neural networks" on March 11-12, 2021.

Dr. A. Shahina, Professor, has endowed the knowledge on basics of deep neural networks and a practical idea on medical image processing using deep neural networks. Dr. T. Sree Sharmila, ASP, shared the ideas on the different DNN models and its architecture available in the existing environment and Dr. J. Sofia Jennifer, AP, presented a hands-on experience with coding explanations on few available DNN models.

Dr. Nandini Ramesh Kumar, Sr. Manager and Practice, Head for Edge AI technology, Tata Elxsi, kindled the participants by sharing her industrial knowledge on Edge AI and the different real time projects she has been working in the current scenarios. Mr. Abhishek Pal & Mr. Gautham Krishnan, Machine Learning Engineer, Mad Street Den presented an informative demo explanation on many DNN oriented industry applications that keeps changing the future.

With 49 active participants this event gave the basic ideas and how deep neural networks are applied in various real time applications to the participants.

Workshop on image classification using deep neural networks

### Introduction to deep neural network models

By  
Dr. T. Sree Sharmila  
Associate Professor  
Department of IT  
Sri Sivasubramaniya Nadar College of Engineering

SSN

Participants: Lavanya, Sofia Jennifer, Jeny Rachel Sa..., Prashant R Stha...

## Invente 5.0

## Invente 5.0

The annual technical fest of SSN College of Engineering - INVENTE - had its fifth edition take place in the online mode, ensuring every student gets the chance to participate from their homes during this pandemic situation. The technical fest was inaugurated virtually by the chief guest - Dr. Srimathy Kesan (Founder & CEO of Space Kidz India) who also released the latest edition of the official magazine - Tech Vibe.

A total of 74 events, hackathons, and workshops - across 8 departments - were conducted to test and develop the technical and non-technical skills of the participants across the country. Every year, the overall conduct of the technical fest is headed by a single department. This edition saw the Information Technology department take up the responsibility. Each department had its own theme, based on which the events were designed and publicized. The themes chosen by each department were:

Computer Science - TV Shows, Information Technology - Madras, Electronics & Communication - Fandom, Electrical & Electronics - Food, Civil - Tamil Nadu, Mechanical - Ingenuity, Chemical - Nostalgia, Biomedical - Spooky

Through the tireless effort of the organizing committee and its volunteers, with the support of sponsorship from companies in various fields - Jamboree Education, Oasys Cybernetics, Saama AI, Pinnacle System, Mr. Cooper, Multibashi, Tamil & more, Construction Management Training Institute, Roshan Construction Company, HG Jewelers, Blind Chemistry, VAAP Energy, Yocket - this online edition of Invente reached a footfall of about 900 registrations.

The technical events sponsored by companies awarded prizes that included internship opportunities and cash prizes to the winners, to benefit them in the respective domain with added opportunities. Hackinfinity, the flagship event from Tech Club SSN, is a 24-hour hackathon conducted under the ECE department's banner. The hackathon was conducted in a smooth manner, with excellent feedback from participants and judges alike. Likewise, the workshops across departments - e-Vehicles workshop by EEE department, BIM-REVIT Architecture workshop by Civil department, and a Space Biology workshop by BME department - were conducted virtually, still meeting the standards of an offline workshop and without a single glitch.

Barring the technical events such as presentations and hackathons, there was a flurry of non-technical events, open to all students of all departments. Events collaborating with SSN's clubs, such as quizzes and IPL auctions with the SSN Quiz Club, and gaming events were also conducted, to bring more fun and frolic to the fantastic fest.

# Invente 5.0

## ENIGMA (CRYPT IT)

Event Coordinators:

- Sowmya K
- Ragavaraju Manaswini
- Rithik Prasad S

Event Description:

**Round 1:** Quiz round: A quiz with around 20 questions will be given to the participants. The questions will involve the participants solving cryptographic puzzles and pattern-based problems. (Duration 30 mins)

**Round 2:** Coding Round: Students will be given a cipher to break, and they must automate the process through code. Program can be written in C, Cpp, Python, Java (hackerrank). Program will be graded based on the number of test cases passed.



## WEBSITICA (Web Development)

Event Coordinators:

- Hari Prasath V
- Sowmya SG
- Naveen B

Event Description:

The first round is conducted in google forms which composes of 30 MCQs with a duration of 1hr. In the second round the student is required to create a website.

## CODERA (DS and Algorithms)

Event Coordinators:

- Janani R
- Meenakshi R
- Meghna N

# Invente 5.0

Event Description:

**Round 1:**

Questions like

- Debugging
- Find the output
- Coding questions
- Find time complexity etc.

**Round 2:** 5 Coding Questions

- One easy
- Two intermediate
- Two hard

**REVERSE GEAR**

**(Code Obfuscation and Reverse Coding)**

Event Coordinators:

- Priyadharshini S
- Vaishnavi M
- Sudhagar B

Event Description:

In the first round 20 MCQs and one obfuscated code is given to deobfuscate within a duration of 1hr. In the second round Two medium level codes will be given for them to obfuscate and one, reverse coding question where the extension file (.exe) will be sent via google drive and they have to find the logic by checking with different input values. Hackerrank platform will be used for code obfuscation.



# Invente 5.0

## **PAPYRUS**

(Paper Presentation)

Event coordinators:

- Shubhangkar G.Jain
- Sanjana B

Event Description:

This event consists of two rounds

Round 1: In the first round, participants form a team of upto 3 members and submit their paper and abstract via mail. The papers are then shortlisted and the selected teams are notified.

Round 2: In the second and final round, shortlisted teams are lined up. Each team presents their paper for 7 minutes followed by a Q&A session for 2 minutes. The top 3 papers will be selected as winners.

## **IMITATION GAMES**

(Mock Interview)

Event coordinators:

- Ashwin S
- Ishwarya S
- Srinidhi S

Event Description:

Mock interview event has three rounds. Out of which,

- The first round consists of 50 MCQs (10-Verbal,10-Quants,10- Logical Reasoning, 20-Coding questions (from core concepts)), Second round has 3 coding questions (1-easy,1- medium,1-hard) and interview in the third round.
- After the first round only a few candidates are selected to the second round. Only for those candidates coding round is conducted.
- Based on the second-round performance of the candidates, the number of students selected for the interview round is decided.
- In the interview round, those who perform well will be selected as winners.



# Invente 5.0

## **ANALYTICS SPRINT** (Data Analytics)

Event coordinators:

- Supraja V
- Dhanush Abiram
- Pavithra S

Event Description:

### **Round 1:**

Questions like,

- Formula of Cost functions
- Regression vs Classification
- General Model Testing
- Missing Data etc.

Round 2:

- Dataset
  - Need to build a model that solves for the given dataset (either a classification or prediction model based on the data)
- Aggregate of both the rounds will be the winner



## SPORTS QUIZ

Event coordinators:

- Sachin R

Event Description:

**Round 1:** MCQs Questions

**Round 2:** Here, the answer should be found by using the pictures given in the slide which represents the part of the answer i.e a word or a letter. Finally, the answer can be found by connecting all the pictures.

**Round 3:** Player's stats based Questions

## E- TREASURE HUNT

Event coordinator:

- Vasanth A

Event Description:

13 clues in total have to be found. Each clue will send the participants to every nook and corner of the internet-globe, having them guessing and decoding where and how to get to their next clue, only to find the treasure waiting for them, in the deepest darkest corners of the internet.



## Instincts'21



## Instincts '21

Every year, SSN College of Engineering organizes Instincts - the cultural festival - which has gained state-level and national-level reach over the years. Owing to the restrictions, for the first time ever, the cultural fest went completely online, with the motive to reach those who eagerly participate in this annual event. But this never hindered the various clubs in the college in their enthusiasm to ensure Instincts retained its reverence. Firstly, SSN's very own clubs continued to organize their annual fundraisers for Instincts, such as SSN Music Club's SMC Live, and No Refund from Humour Us (SSN's Comedy Club). SMC Live happened online for the first time, still maintaining the amazing energy it gives the crowd as in a live show.

The day long cultural fest commenced on the 3rd of April, with all of the college's clubs coming together to conduct 16 grand events. The clubs in SSN boast flagship events which attracts participation from all over the country. Optimizing on the virtual way of conduct, this edition of Instincts saw participation from various colleges in India and abroad - the winning film of SSN Film Club's flagship short film contest, Reels of Fire, was a submission from University of Arts, London.

With the minimal time in hand to pull off such a grand event through the online mode, the club members and the organizing committee put their maximal effort, which resulted in 220 registrations from various parts of the country. Esteemed artists in the fields of music, dance, literature, and cinema were brought in as judges. Through innovative ways to conduct cultural events virtually, all the clubs ensured the participants and audience went back with memorable moments though they could not meet in person.

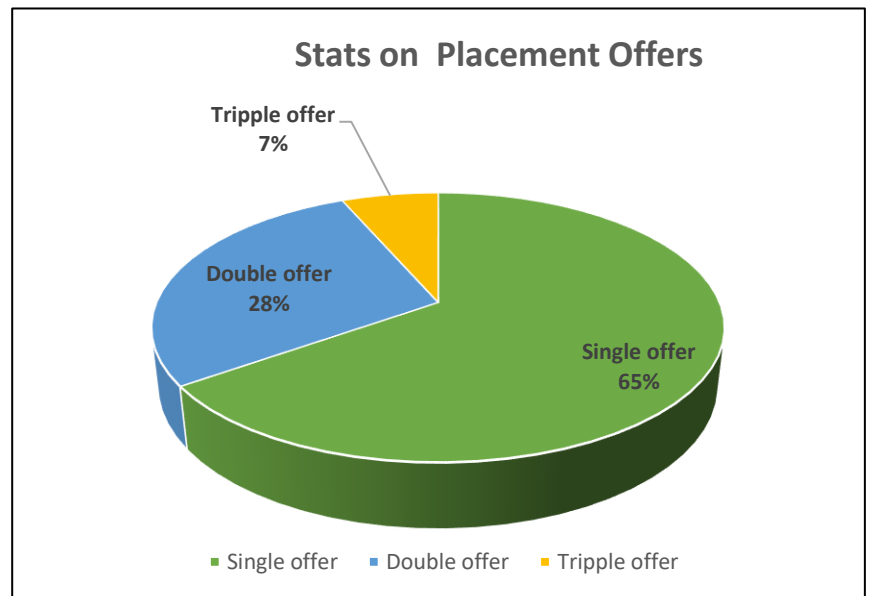
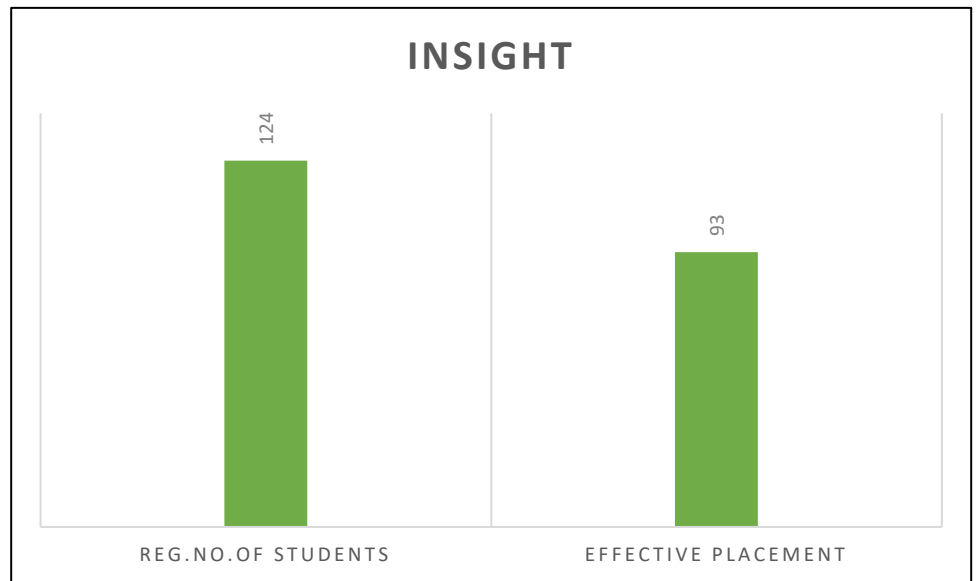
The cultural fest was publicized and conducted smoothly and with great flair through online platforms and technologies which are easily available and popular with the student community. Apart from the 9 clubs which had their own events - Lights Out Please (Theatre Club), English Literary Club, SSN Film Club, Saaral Tamizh Mandram, SSN Photography Club, Arudhra (Classical Dance Club), N2K (Western Dance Club), SSN Music Club, and Q! (Quiz Club) Gradient, the SSN Design Club was a major factor in the reach the fest could achieve, along with the efforts of the PR team through social media platforms.

Overall, the participants were given a period of fun and enthusiasm, away from the negativity of lockdowns, and most importantly with the hope of conducting the next edition of a full-fledged Instincts with its trademark celebrity moments and live proshows, in the beautiful campus of SSN.

Placement  
Insight of  
2021 Batch

## Insights into Placement Activity

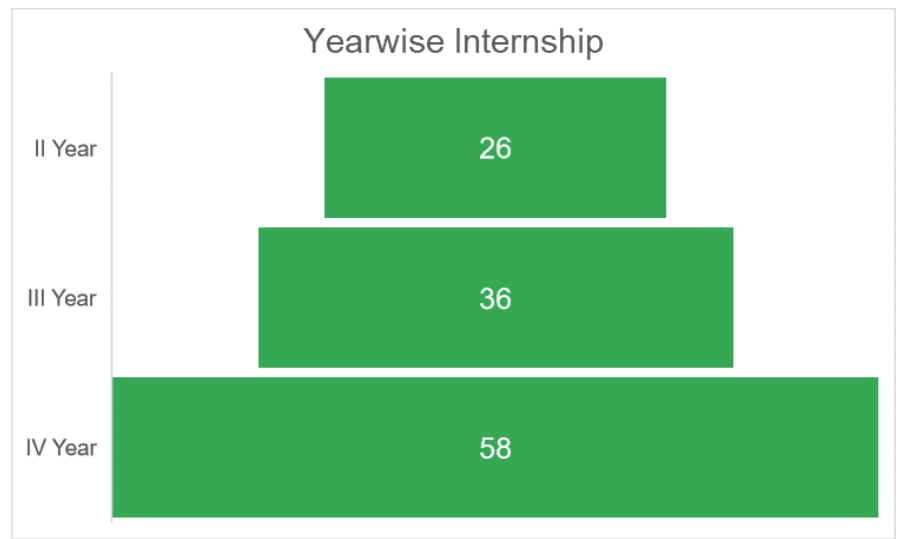
With every passing year, the IT department has set high milestones with regard to placements. This year was no different with the students in fact receiving multiple offers.



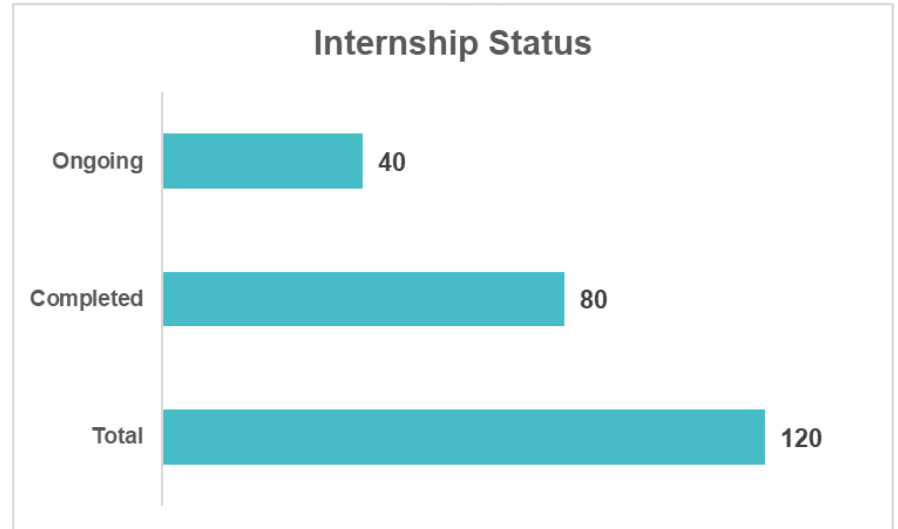
# Internship 2020 – 2021

In collaboration with  
 Carnegie Mellon  
 University, PA, USA  
 Goldman Sachs  
 Wipro Limited  
 verzeo  
 AstraZeneca  
 Microsoft  
 IIITDM,  
 Kancheepuram  
 McKinsey &  
 Company  
 PayPal  
 Caterpillar  
 Dell Technologies  
 ThoughtWorks  
 Samsung E-  
 Commerce  
 LatentView Analysis  
 Freshworks  
 VELOCIX

## Stats and Trends of internship



## Internship Roles offered





Student

Accolade

Internship



## My Experience of Getting into MCKINSEY

McKinsey & Company is an American worldwide management consulting firm and the company has consulted to world's most influential businesses, institutions and governments. I have been hired for Junior Analyst role working with consultants to solve client problems. During the internship, I got the opportunity to work under a senior analyst and understand the process and logic of the company and solving client problems. I have also got an job offer from LTI.

I have crossed a hard terrain to get into Mckinsey. There were 5 rounds, that lasted for a week. The first round was where they filtered out students based on their resume. Around 600-700 students from all departments were chosen after this. The second round was an online game. It was McKinsey's proprietary interview game. You cannot really prepare for this, but you can try and read about it online. They trusted this tool so much that they eliminated a huge number of students and chose 97 from 600+ students. The third round was the first interview round. In this round, questions were mostly based on the resume, the kind of projects you've done etc. They weren't expecting students to code well; it is McKinsey's way of levelling the playing field for students from all departments. You are not expected to have much technical skills. Only your analytical thinking and soft skills are predominantly judged. They expect students to know basic ML definitions and have knowledge in statistics.

The fourth and fifth rounds were use case rounds. They would give you a client problem and ask you for your inputs on the factors you would consider for solving it and for both these rounds there is no right or wrong answer. Your train of thoughts and logic behind it is carefully judged.

To get into Mckinsey, what I would suggest to my juniors is that have good analytical and soft skills. I recommend you to work with a lot of python libraries for data visualization. I predominantly work with Tableau and Alteryx applications. I would strongly recommend you to download them and get familiarized with their environments.

My final piece of advice is that do not get discouraged by rejections. I can't count the number of rejections I faced before landing at LTI and McKinsey. But unlike most colleges, SSN had so many companies turn up for placements that you will have an amazing amount of opportunities. Do your best and take it one company at a time! All the very best.

**-Shivani Venkatachalam Srinivasan**

**Fourth Year**

# Student Accolade - Code Geek



## My Experience in Apple's World-Wide Developer's Conference (WWDC)

Every year, before the Apple's World-Wide Developer's Conference (WWDC) event takes place (in June) they hold the Swift Student Challenge for the same. Winners for it will be given a free ticket to attend the event in Cupertino, California. Students are expected to submit a 'Swift playground' which demonstrates their skill in the Swift programming language and many other useful frameworks like CoreML (for machine learning) or RealityKit (for Augmented Reality modeling). However, it has been held in a virtual mode in 2020 and 2021 due to Covid-19. I am proud to tell you that this year, my submission has been accepted for the WWDC21 Swift Student Challenge along with a handful of students. I have been given access to Apple's exclusive pre-release software, one-year free membership of their developer program, and of course, few goodies like a Jacket and some badges. Unfortunately, I won't be traveling to California to attend their event, nevertheless, I have been in contact with several other winners all over the world and the community is great and the exposure has been humongous. I have already been interviewed by the Apple Press India and NDTV Gadgets 360. I just wanted to thank SSN for giving me my freedom to explore things like this and bring back home achievements. I wanted to convey this to the SSN management and faculties. I have attached a few links regarding my submission:

Github Repository link: <https://github.com/programVeins/rubysdilemma>

Youtube Video link: <https://www.youtube.com/watch?v=6KlwMRYOupk>

Winners List for WWDC: <https://www.wwdcscholars.com>

Apple's official link for WWDC: <https://developer.apple.com/wwdc21/>

- **Sabesh Bharathi,**  
- **II Year**

Student  
Accolade -  
Certificate  
of Excellence

- Harshini S (185002036), Third year, achieved Honourable Mention of UNICEF in IMUN online conference 41.0 held from 23-01-2021 to 24-01-2021.



- Ashwini ramesh of 2nd year, participated and won second place (cash prize INR 1500) in invente 5.0 on 26<sup>th</sup> January for " Build-a-thon", a technical event conducted by Civil Department.

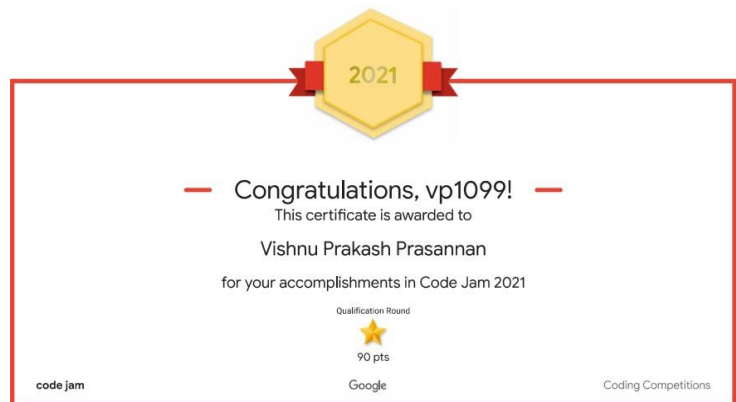


Student  
Accolade -  
Certificate  
of Excellence

- Vishnu Prakash Prasannan (185002124), Third year, completed 15 Hours Value-Added Course (Finance for Engineering Professionals) offered by SSN College of Engineering.



- Vishnu Prakash Prasannan (185002124), Third year, has cleared the Google Code Jam 2021- Qualification Round.



Student  
Accolade -  
Certificate  
of Excellence

- Ms. Sanjana B, Ms. Sanjana & Ms. Sanjana Sukumar, IV Year, B.Tech (IT) mentored by Dr. J. Sofia Jennifer, AP, secured the first prize in **CSI students project competition** held on 31<sup>st</sup> Mar 2021.



- Lassya Subramaniyan from III Year IT with her team "Together We Can" mentored by Dr P. Vasuki, ASP, has been short listed for 3<sup>rd</sup> round, for **Chhatra Vishwakarma Awards 2020**. The online evaluation had been carried out on 13<sup>th</sup> April 2021.
- V. Laasya Subramanyam (IT-III Year), Chetana Krishnan (BME- III Year) and V. Sasya Subramanyam (IT-III Year) mentored by Dr. T. Sree Sharmila, ASP, won second prize (INR 10,000/-) in **IEEE Student Project Funding 2020 – 21** conducted online by IEEE Madras Section on 17.04.2021.
- HSJ Sahana has secured first place in **LOUDWIRE** organized by Kumaraguru Institutions, Coimbatore on 3-4-2021.

Student  
Accolade -  
Certificate  
of Excellence



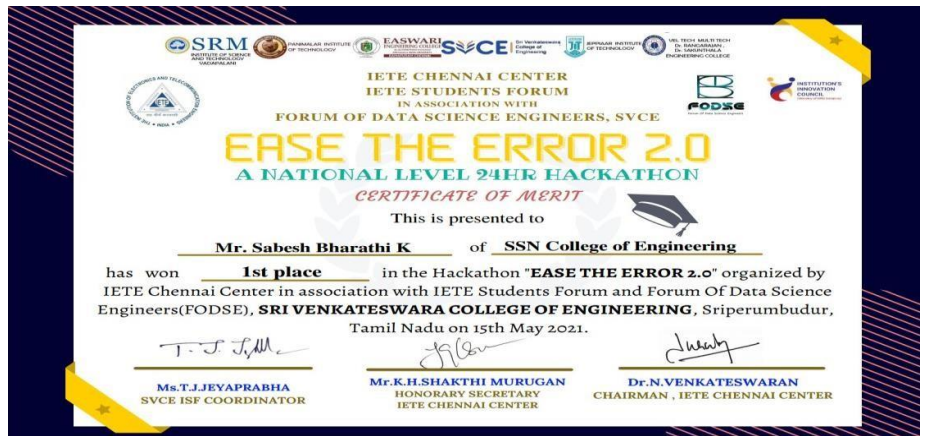
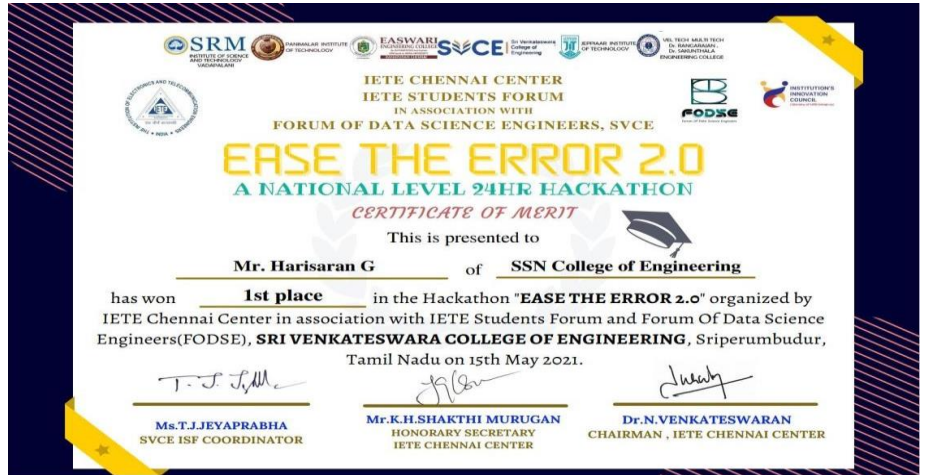
- Sagar Seth (195002096), Second year has participated and secured First prize in the **WEBFLIX** event organized as a part of technical fest HASHTAG 3.0 by Department of Information Technology, CIT, on May 3<sup>rd</sup> 2021.



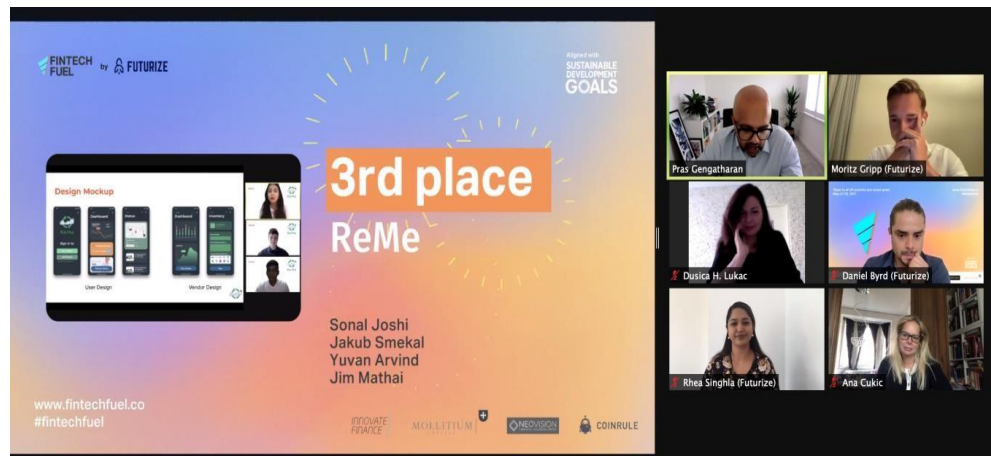
- Harisaran G (195002045) and Sabesh Bharathi K (195002094), Second year, have participated and won First place in the **Hackathon "EASE THE ERROR 2.0"** organized by IETE Chennai in association with IETE Students Forum and FODSE at Sri Venkateshwara College of Engineering, Sriperumbudur, Chennai on 15<sup>th</sup> May 2021.



Student  
Accolade -  
Certificate  
of Excellence



- Yuvan Arvind G (195002129) Third year has participated in a **Fintech Fuel Hackathon** organised by Futurize and grabbed the 2nd runner up. This was conducted from 25<sup>th</sup> - 29<sup>th</sup> May 2021.



Faculty  
Corner –  
Felicitation  
for  
Completion  
of  
Ph.D.

**Mr. A. Sandana Karuppan**, AP, scholar of Dr. N. Bhalaji, ASP, IT, successfully defended his thesis titled "A distributed scheduling service using genetic approach" on 17-03-2021.



**Ms. Swathika R**, AP, scholar of Dr. T. Sree Sharmila, ASP, IT, successfully defended her thesis titled "Study on fusion techniques for classifying satellite images" on 22-04-2021.



**Ms. Uma Maheswari S**, AP, scholar of Dr. A. Shahina, Professor, IT, successfully defended her thesis titled "Lombard Effect Compensation for Speech and Speaker Recognition Systems Using Deep Learning Neural Networks" on 28-04-2021.



Faculty  
Corner –  
Achievement

**The SAR for NBA was successfully submitted by the Department on 17-05-2021.**



Dr. T. Sree Sharmila, ASP, received a certificate of appreciation on behalf of SSN IEEE Student Branch for organizing activities towards **advancement of IEEE and Engineering profession during the year 2020** in the Annual meet of IEEE Madras Section at Savera Hotel, Chennai on 20.02.2021.



Dr. T. Sree Sharmila, ASP, IT has been a **Chair person** in New Gen (An Innovative idea generation event) of National Level Technical symposium, AURORA'21, organized by Department of Computer Science and Engineering, Amrita College of Engineering and Technology, Nagercoil held during May 01, 2021.

Faculty

Corner -

Publications

## Journal Publications

- Dr. S. Karthika, Dr. N. Bhalaji, Dr. S. Chithra, N. Sri Harikarthick, Debadyuti Bhattacharya have published the paper titled "NoRegINT—A Tool for Performing OSINT and Analysis from Social Media" in Lecture Notes in Networks and Systems, Springer (Scopus indexed and SJR = 1.25, Cite score=0.4).
- Beulah, T. Sree Sharmila, V.K. Pramod, Degenerative disc disease diagnosis from lumbar MR images using hybrid features, The Visual Computer, Published online, 5/8/2021, <https://doi.org/10.1007/s00371-021-02154-x>
- P. Gajalakshmi, T. Sree Sharmila, Hand sign recognition by visible and thermal images using modified quality local thresholding technique, Journal of Environmental Protection and Ecology, 22, No 2, 801–812,5/13/2021

## Conference Publications

- Dr. Radha N, Dr. Malathy E.M, Dr. Swathika R, Janani R B, and Anto Silviya R, presented a paper titled 'Drowsiness Detection System using Visual Articulators' in the two days IEEE Scopus indexed Third International Conference on Intelligent Communication Technologies and Virtual Private Networks (ICICV 2021) organized by Francis Xavier engineering college, Tamilnadu, India on February 4-6, 2021.
- Dr. N. Radha, ASP, Dr. A. Shahina, Professor, IT, SSNCE, along with Dr. A. Nayeemulla Khan, Professor, VIT, presented a paper titled "A Survey on Visual Speech Recognition System Approaches", in IEEE International Conference on Artificial Intelligence and Smart systems (ICAIS'21) Organized by JCT College of Engineering and Technology, Coimbatore, 25-27 March, India.
- Dr. N. Radha, AP, Dr. R. Swathika, AP, presented a paper titled "A Polyhouse: Plant Monitoring and Disease Detection using CNN", in IEEE International Conference on Artificial Intelligence and Smart systems (ICAIS'21) Organized by JCT College of Engineering and Technology, Coimbatore, 25-27 March, India.
- Dr. A. Shahina, Professor, along with her students Mahima. S and Kaushika. P, presented a paper titled "EDA on the relation between Covid-19 cases and climatic zones, GDP and HDI", in the 4th International Conference on Covid-19 Studies held in Istanbul, Turkey on April 17-19, 2021.
- Dr J. Sofia Jennifer, AP, Dr. T. Sree Sharmila, ASP, K. Gowtham, R. Ishwarya presented a paper titled " A Study on Ensemble feature learning for Material Recognition", at the 5th International Conference on Computing Methodologies and Communication organised by Surya Engineering College, Erode during 08-10 April 2021.

# Faculty

# Corner

- The following paper was published in the proceedings of the 10<sup>th</sup> International IEEE/EMBS Conference on Neural Engineering (NER 2021) "Investigating Cognitive Global Coordination in normal and autistic children using VR environments- An EEG Study" authored by Chrisilla S, Tharun R Ragav, Dr. Vidhusha S, AP, IT, Dr. A. Kavitha, Professor & HoD, Department of BME, held during 4-05-2021 and 6-05-2021 (Virtual Mode).

## Articles Reviewed

- Dr. I. Joe Louis Paul, ASP, reviewed the articles for International Springer conference on Advanced Computing and Intelligent Technologies (ICACIT 2021) jointly organized by Galgotias University, Greater Noida, India and Department of Information Engineering and Mathematics Università Di Siena, Italy on February 07, 2021.
- Dr. I. Joe Louis Paul, ASP, reviewed the articles for 2nd International Springer Conference on Microelectronic Devices, Circuits and Systems (ICMDCS – 2021) organized by Vellore Institute of Technology, Vellore on February 07, 2021.
- Dr. I. Joe Louis Paul, ASP, reviewed an article for Wireless Personal Communications Journal (Springer) on February 08, 2021.
- Dr. I. Joe Louis Paul, ASP and Dr. P. Vasuki, ASP, reviewed the articles for IFIP Event - 4th International Conference on Computational Intelligence in Data Science (ICCIDS-2021) organized by Department of Computer Science and Engineering, Sri Sivasubramaniya Nadar College of Engineering during February 22-23, 2021.
- Dr. V. Arulkumar, AP, reviewed an article for Journal of Ambient Intelligence and Humanized Computing on 12-02-2021
- Dr. I. Joe Louis Paul, ASP, reviewed an article for Arabian Journal for Science and Engineering (AJSE) - Springer on March 15, 2021.
- Dr. I. Joe Louis Paul, ASP, acted as the reviewer for Wireless Personal Communications (Springer) Journal on May 17, 2021.
- Dr. I. Joe Louis Paul, ASP, acted as the reviewer for Arabian Journal for Science and Engineering (Springer) Journal on May 28, 2021.

## Submitted External Funded Projects

- Dr. S. Karthika, Dr. S. Chithra and Dr. N. Bhalaji, Associate Professors from IT Department, SSNCE and Prof. S. Bose, CSE Department, CEG, Anna University have submitted the proposal titled Janrakshak – Pandemic Early Warning System Using Open Source Deep Neural Intelligence for Indian Scenario budgeted to Rs. 6959577/- to Core Research Grant under DST on 07-03-2021.



## Faculty

## Corner

- Dr. T. Sree Sharmila, ASP, IT and Dr. S. Joseph Gladwin, ASP, ECE have submitted the project titled "A Non-contact based biometric application for SHGS women in Kancheepuram district during Covid-19" budgeted for \$5000 to 2021 IEEE HAC/SIGHT Projects - Focus on COVID-19 Response.
- Dr. N. Bhalaji submitted a project proposal titled "SPECIFIC MEASURABLE ASSISTIVE REUSABLE TECHNOLOGY FOR DIABETIC MONITORING" as one of the Co-Principal investigators (PI: Dr. R. Kalidoss, ASP, ECE) under the scheme of Biomedical Device and Technology Development (Grand Challenge) to the tune of budget seeking Rs.2040000/- on 29-3-2021.

## Guest Lectures delivered

- Dr. R. Srinivasan, Professor, was invited to deliver a technical talk titled "Substrate Noise in Mixed Signals ICs" in the Department of ECE, Sri Ramakrishna Engineering College, Coimbatore on 06-02-2021.
- Dr. S. Karthika, ASP, delivered a talk titled "Data Analytics using Machine Learning for Social Networks" in the ISTE sponsored 5-day Virtual STTP conducted by Department of IT, Sri Sairam Engineering College, Chennai on 08-02-2021.
- Dr. S. Sasirekha, ASP, delivered a guest lecture on "IoT Data Management - Techniques & Research Focus" in AICTE Sponsored FDP on IoT Applications with Blockchain Techniques at the department of CSE, Mahendra Engineering College, on 17.03.2021.
- Dr. N. Bhalaji, ASP, delivered a talk on "Introduction to Blockchain Technology and Internet of Things" at AICTE Faculty Development Programme on "IoT Applications with Blockchain Techniques", hosted by Mahendra Engineering College, on 18-3-2021.
- Dr. N. Bhalaji, ASP, delivered a talk on "Research Directions in Blockchain Technology" at AICTE Faculty Development Programme on "IoT Applications with Blockchain Techniques". hosted by Mahendra Engineering College, on 19-3-2021.
- Dr. N. Bhalaji, ASP, delivered a talk in the AICTE Sponsored STTP titled "Exploring Real World Applications of Block Chain Technology with Machine Learning Models", organised by KLN College of Engineering, Madurai on 24.03.2021.

## Webinars and Seminars Conducted

- Dr. T. Sree Sharmila organized a webinar titled "Why blockchain will matter in 2021 and beyond" delivered by Manish Shukla, Consultant, Blockchain – Grant Thornton & Deepak Mohanty, Vice President, HSBC on 13.02.2021 under the banner of SSN IEEE student branch in association with IEEE computer society student chapter, SSNCE.



# Faculty

# Corner

- The Cyber Security Working Group has organized One day hands-on session in OSINT for the members of CSWG on 13-03-2021.
- Dr. T. Sree Sharmila, ASP, organized IEEE Conclave on 25-26 March 2021 under the banner of SSN IEEE Student Branch.
- Dr. S. Karthika, ASP, organized Mathaare, on 8th March 2021 under the banner of SSN IEEE WIE on the occasion of Women's day.
- Association of Information Technologists (AIT) of SSN College of Engineering along with Institution's Innovation Council (IIC) organized a webinar on "Mental Health" by Dr. Manikandan Mohandoss on 28-05-2021 with 47 active participants.

## FDP and Webinar Attended

- Dr. S. Vidhusha, AP, attended the One Week Training on Deep Learning Using Medical Data from 08<sup>th</sup> - 12<sup>th</sup> February 2021 organized by Finland Labs.
- Dr. V. Arulkumar, AP, participated in 3 days Online Workshop on "Intelligent Edge Computing for Cyber-Physical and Cloud Systems" from Feb 26-28, 2021, conducted by Department of CSE, IIT-Patna.
- Dr. V. Thanikachalam, ASP and Dr. R. Vinob Chander, AP, attended the ISO 9001:2015 Internal Auditor training program organized by TUV NORD Training Pvt Ltd on 24<sup>th</sup> and 25<sup>th</sup> of February 2021.
- Dr. S. Chithra, ASP, attended online national level workshop on "Fundamentals of Quantum Computing and Applications" held during 1-03-2021 to 5-03-2021, organized by Centre for Interdisciplinary Research in Quantum Information and Technology (CIRQuIT), in association with IEEE Computer Society, RVCE student chapter, and technically supported by IBM India Private Ltd.
- Dr. S. Poornima, ASP and Dr. P. Vasuki, ASP, attended the workshop on Image classification using deep neural networks conducted by SSNCE on 11<sup>th</sup> & 12<sup>th</sup> March 2021.
- Dr. V. Thanikachalam, ASP, participated in the National Level Workshop on "Research Documentation - LaTeX" organized by Department of Computer Science and Engineering, IEEE / IEI / ACM / CSI / IIC Student chapters, Sri Sivasubramaniya Nadar College of Engineering on 06 March 2021 in virtual platform.
- Mr. V. Sivamurugan, ASP, attended online FDP on Machine learning with python conducted by Department of Computer Science and Engineering, National Institute of Technology, Warangal from 12<sup>th</sup>-16<sup>th</sup> April 2021.
- Dr. A. Sandanakaruppan, AP, attended One-Week Workshop on Machine Learning Concepts and Applications conducted by

## Faculty

## Corner

Department of Computer Science and Engineering, National Institute of Technology, Tiruchirappalli, Tamil Nadu - 620 015 from 19<sup>th</sup> – 23<sup>rd</sup> April 2021.

- Mr. V. Sivamurugan, ASP attended online FDP on Deep learning and its applications conducted by Department of Computer Science and Engineering , National Institute of Technology, Warangal from 26<sup>th</sup>-30<sup>th</sup> April 2021.
- Dr. V. Arulkumar, AP, attended Three days free Online workshop on "Machine learning with SCIKIT Learn, KERAS and Tensor Flow" during 17-05-2021 and 19-05-2021 Organized by department of CSE, Sri Ramakrishna Engineering College, Coimbatore.
- Dr. S. Chithra, ASP, attended webinar on "Intellectual property rights (IPR), Types and Examples, organized by SSNCE-IIC on 19.5.21.
- Dr. J. Sofia Jennifer, Dr. V. Arulkumar, Dr. N. Radha, Dr. R. Swathika and Dr. K. Kabilan, Assistant Professors attended a virtual Faculty Development Programme on "Creative and Innovative Teaching Strategies for The New Normal" under SSN –Institute Innovation Council (IIC3.0) during May 24<sup>th</sup> – 31<sup>st</sup>, 2021.
- Dr. S. Karthika, ASP, attended the International Webinar on "Evolutionary Learning and its Engineering Applications" organized by IEEE Bangalore section on 21<sup>st</sup> May 2021.

## MOU's Initiated

- Dr. N. Bhalaji, ASP along with Dr. V. Albal, Professor & Director SSN ASE & ACE and Dr. C. Aravindan, Professor, Head of the Department, IT, had an interaction with Future connect for possible MoU with Center of excellence in Industry 4.0 on 10.04.21, 21.04.21 and 23.04.21.
- Dr. N. Bhalaji, ASP along with Dr. V. Albal, Professor & Director SSN ASE & ACE had an interaction with Samsung PRISM team for possible collaboration on 22.04.21.
- Dr. N. Bhalaji, ASP, Dr. C. Aravindan, Professor, Head of the Department, IT, along with Dr. V. Albal, Professor & Director SSN ASE & ACE attended a virtual meeting with Founder of Gene block for possible MoU with center of excellence in industry 4.0 on 28.04.21.
- Dr. N. Bhalaji, ASP, had a interaction with Mr. Anand Naidu, director of ISAC for possible collaboration with Center of excellence industry 4.0 on 27.04.21.

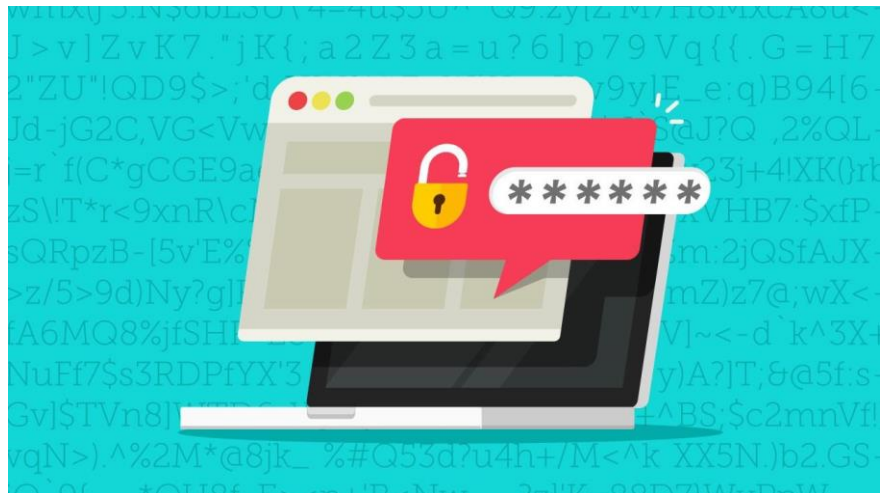
## Scholar Related Activities

- Dr. T. Sree Sharmila, ASP, conducted the Ph.D viva-voce examination for her part-time research scholar Ms. S. Manisha on 17.02.2021.
- Dr. S. Chithra, ASP, served as Expert Member for Comprehensive Viva meeting for Research scholar Ms. M. Ranjani, SRMIST on 29.3.21.
- Dr. S. Sasirekha, ASP, served as Doctoral Committee Member for Research scholar Mr.Naveen Kumar, Department of Electronics & Communication Engineering , SRMIST on 09.02.21.
- Dr. S. Sasirekha, ASP, conducted the first DC Meeting for her part- time research scholar Ms. Kalaiselvi T on 05.02.2021 through online mode
- Dr. T. Sree Sharmila, ASP, conducted the synopsis meeting for my research scholar Ms. Roselinkiruba R on 10 March 2021.
- Dr. S. Karthika, ASP, successfully conducted the Ph.D Viva-Voce examination for her full-time research scholar Ms. R. Geetha who defended the thesis titled "Sensitivity analysis to identify the self-disclosures of personally identifiable information in online social media" on 28-04-2021.
- Dr. P. Vasuki, ASP, acted as Doctoral Committee member of Mr. Dinesh K P who is admitted to the Ph.D. programme in the School of Computer Science and Engineering, VIT as an Internal Full-Time candidate.

## Technical Articles

### Password Managers

Ever had trouble remembering passwords? Frustrated that you might have to reset it **again**? Maybe you thought the solution to that was to reuse the password with extra fittings or storing your entire list of passwords somewhere. Pretty sure both of them are not great options, since reusing passwords means once it has been compromised, all your other applications with the same or similar password are easily hackable. Similarly, if you have stored your passwords on the cloud or on a local device, as long as it's not encrypted, they can be accessed as well. Also writing down your list of passwords is not encouraged for obvious reasons.



Here comes password managers to the rescue and a password manager will take a load off your mind, as they free up the brain power for doing productive things rather than remembering a long list of passwords.

Even though there is a small amount of risk that you take by putting your passwords in an encrypted database on the internet, majority of the security researchers advocate the use of password managers as the advantages totally outweigh the drawbacks. So what really is a password manager?

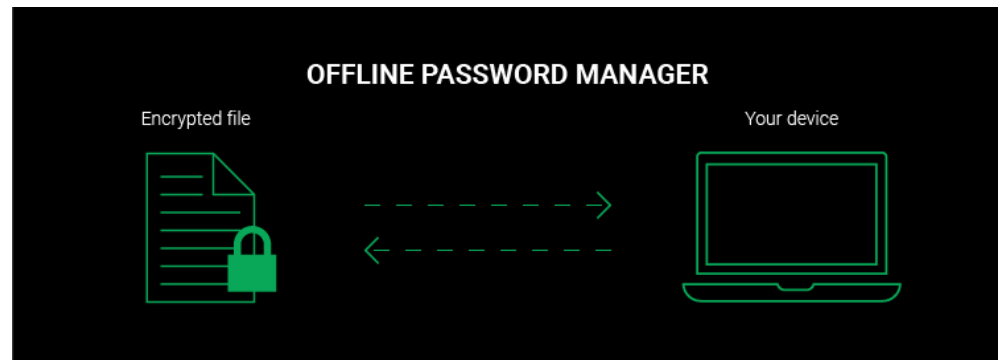
Password managers store your login information for all the websites you use and help you log into them automatically. They encrypt your password database with a master password – the master password is the only one you have to remember. Also password manager generates secure, random passwords for you and remembers them so you don't have to.

The password managers that I'm talking about are not Browser-Based Password managers. Moreover, browser's built-in password manager can't compete with dedicated password managers. For one thing, Chrome and Internet Explorer store your passwords on your computer in an unencrypted form. People could access the password files on your computer and view them, unless you encrypt your computer's hard drive. This is the main reason why Browser-Based Password managers are not preferred.

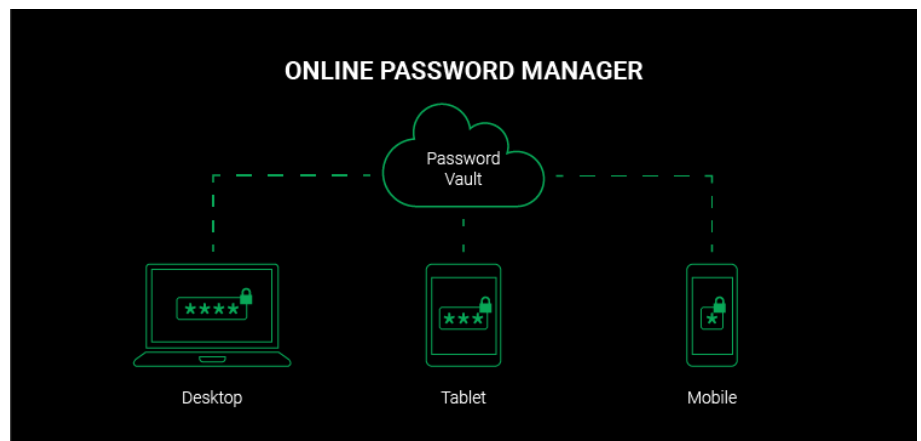
# Technical Articles

There are two types of password managers:

**Desktop-based** password managers store your passwords locally on your device, like your laptop, in an encrypted vault. You can't access those passwords from any another device, and if you lose the device, then you lose all the passwords stored there.



Cloud-based password managers store your encrypted passwords on the service provider's network. The service provider is directly responsible for the security of your passwords. The primary benefit of cloud-based password managers, is that you can access your password vault from any device as long as you have an Internet connection.



The way that password managers work is simple: you save all your passwords to the manager, and then create one "master" password for all of them. When you sign into a site, you just use that one master password — it's the only one you need to remember.

That means you can make this one password lengthy and strong. Enabling two-factor authentication in the password manager app adds even more security.

Most importantly, all leading password managers use a technique called "zero knowledge." Zero-knowledge security means that although the password manager knows your passwords, the company that makes the manager doesn't.

What makes a password manager safe is its Zero Knowledge security model that consists of three layers of defense: the encrypted user data, the manager's



Technical

Articles

password which is not kept on the system, and the security key. A hacker would need to break down all three defenses to get access to the information.

While these layers of defense don't rule out all hacks and exposure, they greatly reduce the risk that a password manager could be hacked by a middleman. It also means that if a password manager company gets hacked, that intrusion can't compromise customer data.

So, I believe it's time that we don't worry about remembering long list of passwords or security breach and leave that dirty work to Password Managers.

- **Koushika Padmanaban, Third year**

## Et tu Google

All things in life, good or bad, come to an end. Likewise, Starting June 1st, Google will start counting high-quality photos stored in Google Photos, within a free, common 15GB Storage cap, which is shared with storage from other Google services like Gmail and GDrive.

Existing 'high' quality images will not count towards the free 15GB account allowance. So you don't need to worry immediately if you've got a huge library of photos in your cloud. Any photos already uploaded in 'high' quality before 1 June 2021 will not affect your capacity cap.

This just means that starting next month, people won't be having a free unlimited storage option in Google Photos, to store their pictures.

There is one exception to this – users of Google Pixel phones (from the Google Pixel 2-5) will continue to receive unlimited free storage for high quality photos. Similarly, owners of the Pixel (2016) will retain their unlimited storage capacity for original quality photos.

For others though, the solution offered to the issue by Google, is to pay to use Google One, its subscription-based cloud storage solution. This shouldn't really be a surprise to most people as it has been a long time coming, especially considering Google has over a billion users and providing them with free storage forever was never going to be sustainable.

There are three paid plans to pick between (as of 19/05/2021). Each includes an increased storage allowance, which applies across all Google products – including Google Drive. The most affordable Google One plan includes 100GB of storage space. It costs ₹130.0 per month. Alternatively, you can save 16% over 12 months by paying ₹1300.0, prepaid annually. This will be the best plan for most people, offering a reasonable storage expansion at the most affordable cost. It's a good deal if you're mostly looking to backup your smart phone image library online.

Other plans include higher storage options, at proportionally less prices, for 200GB and 2 TB. But most people reading this won't be needing this right off the bat, unless you are absolutely certain you'll max out the 100GB storage cap, given in the basic plan.



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Plan	Price	Includes
15 GB Free	Current plan	15 GB storage
100 GB Recommended	₹130 / month Or prepay annually: ₹1,300 / year	100 GB storage, Access to Google experts, Option to add your family, Extra member benefits
200 GB	₹210 / month Or prepay annually: ₹2,100 / year	200 GB storage, Access to Google experts, Option to add your family, Extra member benefits

The prices offered by Google aren't much different than other cloud storage options from other market leaders (all prices are rounded up):

Included <b>5GB</b>	Good for safely storing all the basics, like contacts, calendars and notes.	Free
Most Popular <b>50GB</b>	Recommended for storing your photos, videos, files and app data, and backing up your device.	₹75/month
Lots of Photos <b>200GB</b>	Good for families or one person with lots of photos and videos.	₹219/month
Great for Families <b>2TB</b>	A lifetime of photos, videos and everything else for you, and up to five family members. Ideal for families to share.	₹749/month

- The most recommended alternative for people who've already invested in the "Apple Ecosystem", would be the iCloud storage expansion options, or even the Apple One program.
- It replaces the 100GB option offered by Google with a 50GB option at ₹75 per month. With the higher storage options being priced in the closer vicinity of what Google offered.
- Another fairly popular alternative would be Microsoft's Onedrive Storage or The Office 365 package which comes included with the MS Office Suite.
- It offers the 100GB package (Only One drive included) for ₹140 per month. This places it close to Google's offer for the same amount of storage.

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Microsoft 365 Family	Microsoft 365 Personal	OneDrive Standalone 100GB	OneDrive Basic 5 GB
₹ 6,199.00 / year	₹ 4,899.00 / year	₹ 140.00 / month	Free
<a href="#">Buy now</a>	<a href="#">Buy now</a>	<a href="#">Buy now</a>	<a href="#">Sign up for free</a>
Or buy at ₹ 619.00 per month	Or buy at ₹ 489.00 per month		
Try free for one month			
<b>OneDrive Premium Features</b> 6 TB total (1000 GB per person)	<b>OneDrive Premium Features</b> 1 TB (1000 GB)	Storage only 100 GB	Storage only 5 GB
Services included	Services included	Services included	Services included
OneDrive	OneDrive	OneDrive	OneDrive
Office apps included	Office apps included	Office apps included <small>Not included</small>	Office apps included <small>Not included</small>

For those who can afford to wait for a few months, you might be rewarded with another alternative from Amazon, through its "Prime Photos" initiative to provide free storage for pictures as part of its Prime membership. It has already launched and is available in select nations around the world and is expected to launch in India anytime soon.

## Non-Cloud Alternatives

In Spite of all the obvious conveniences, cloud storage does have its disadvantages, in areas of security and cost. So there are a couple of popular workarounds to this. The obvious one is storing your files and data, in a physical, external storage device and making regular backups of it. As tiring as it sounds, it's more memory at a cheaper price. Another interesting method would be to create your own Cloud-like service.

How to Get Started:

This section is for people who plan to shift from Google Photos to a different service. If you plan to stick with Google Photos, it should be smooth sailing.

First thing would be to export all your pictures, from Google photos to a storage system. Following which you upload that into your new service.

It's quite honestly an end of an era, and a final nail in the coffin, for any advocating for any service being free to use. The world is turning towards a subscription-based model for any popular, mainstream service and the trend isn't slowing down anytime soon.

**-V MEGANATHAN, SECOND YEAR**

Technical

Articles



## Open-Source Intelligence (OSINT)

Cyber Security is one of the most important domains under Information Technology, and it is more prevalent and needed in this age. From 5-Year old children to cats having their own Social Media accounts, from online shopping to food delivery, there are multiple areas where the personal data of people can be compromised.

OSINT, which stands for Open-Source Intelligence, is a fundamental part of Cyber Security. It refers to investigations carried out using the openly available information which is authorized to be accessed by anyone, rather than gaining unauthorized access to information using methods such as hacking. Given below are some domains along with their corresponding OSINT-ing tools.

### General Search

Unlike most of the search engine alternatives, Dogpile and Million Short are not simply visual makeovers of Google. They have their own features which make them unique search engines. For the dataset we provided, we found that Dogpile and Million Short returned more relevant and expected results, but the overall amount of results returned were less than a million. The slightly more relevant results compensate for the sheer amount of results returned by Google.

Another interesting website we found was WebOasis. Although not a search engine on its own, it is a website that has multiple search options that you can choose from depending on what you want to search for. It is best to think of WebOasis as a repository of websites from which you have all the freedom to explore.

### People Search

The most widely sought for OSINT-ing domain is People Search. Though the People Search OSINT tools in India are not as good as those offered in the United States (Spokeo, That's Them), there are still few websites that give good results. In our dataset, we categorized the input into popular, semi-popular and unknown names. Webmii was one tool which gave very satisfying results for unknown names too. Whitepages, though not as good as the former, also gave reasonably valid outputs for the unknown names. However, both of these only return articles or websites related to the input name and do not provide a bio-data - like result.

### Reverse Image Search

Reverse Image Search is the process of analyzing any image you upload to the search engine so that it can compare and return similar pictures from anywhere they exist on the internet. Search engines like Google, Bing and Yandex provide a reverse image search service, and rely on their databases to compare and return results. TinEye is a website made for reverse image



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search and has its own database. Out of all these websites, Google returned the most relevant results for the images we uploaded while TinEye performed poorly.

### Plane & Ship Lookup

It was really incredible to see that one can view almost all active flights and ships in the entire world by just visiting a website! Flight Radar 24, FlightAware and Radar Box are few such well known websites for plane look up where active flights are displayed elegantly as small icons in a world map-like interface. On clicking a particular flight-icon, various details of the flight are displayed. Moreover, they allow the users to search by various kinds of inputs such as airline, flight number, airport, origin and destination, etc.

With regard to Marine OSINT, Marine Traffic and Vessel Finder are some popular sites which work similar to the above mentioned Flight OSINT tools. Apart from these, there also exist sites like MyShip in which one can also search for crew members, find marine-related job invitations, etc.

### Email

Email is one of the most powerful credentials one could have apart from phone numbers that can easily lead us to the target. Email OSINTING can be divided into verification, validation and breach check. Though there are ample tools and resources to provide us the platform for email OSINTing, certain tools have found its way to master in that particular domain and provide not only near accurate results but also link us to a variety of other sources the user of that particular email may have used. Have I been pwned is a famous tool that helps us to check if an email id has been breached. Email validator tools like mailbox validator and emailrep validates the email id and provides details like email reputation, no of reputable sites the mail id has been found in and also the data breach period.

Email verification tools like centralops has been very useful for OSINTing and provides progressive details like confidence rating for the mail id in terms of SMTP and also gives us few details regarding the MX records. Apart from these, CLI interfaces like Buster, Infoga, Socialscan and The Harvester have shown to be very useful in finding email id and any social accounts / usernames / addresses or other details they have been linked with.

### Phone Number Lookup

Back in the beginning of the century, yellow pages - telephone directory was the major source for phone number lookup where users manually search for an individual's landline number, using their name and address, mentioned in alphabetical order. A phone number OSINT tool is a digitalised and automated version of this conventional procedure. It is indeed much more advanced in terms of speed, accuracy and contains a rich database of information, oriented worldwide, much to the contrast of telephone directories which are maintained for a specific geographical area. Given a phone number, it provides versatile outputs including name of the subscriber, city where the subscriber identity



Harshithaa Murali

## Technical Articles



Ashwini Ramesh

module (SIM) was purchased, carrier and service provider, SMS and MMS gateway address, validity of the number and much more.

These outputs serve as crucial hints on discovering social media accounts and email addresses connected with the number. This further leads to much more in-depth details like the individuals in frequent contact with the target, the hashtags, personalities and interests followed by the target which are anticipated from the social media account, further, age of the target, education etc anticipated from Email ID. Some tools like Find and Trace provide progressive details corresponding to the last live location of the target, using GPS involved in the device connected to the number.

OSINT tools can be classified as web interfaces, which are accessed via the internet as a website and Command Line Interface (CLI), which are tools installed on a local system and executed using the command prompt of the operating system. Some prominent web interfaces for phone number OSINT include true caller, numverify, find and trace, trace phone number, etc. Numerous CLIs have also been developed including phoneinfo, phonia toolkit, which can be cloned and installed from Github repositories.

Nevertheless, analogous to how a virus evolves itself to the environment of residence, targets have also started evolving themselves to hide their identity, in response to such sophisticated tools. Temporary numbers are available which allows the target to create social media accounts and fake email-ids. This is possible due to the one-time password (OTP) feature in various domains to create an account. Targets simply use a dummy number available in websites like sms24.me, to retain an OTP via SMS, create an account on any domain and use Voice over Internet Protocol (VoIP) to make phone calls for communication, thus bypassing an analog mode of communication, where tracing is easier. Later, these accounts are used as sock-puppets, thus making it more challenging for an OSINT investigator to recover the real identity behind a number.

## Metadata and Forensics

Metadata, the term refers to data about data. Considering a relational database, we comprehend the number of relations, the keys oriented to the table, association of tables to one another, etc, which is not the data itself, but some valuable information persisting to the data stored in the database. This is known as metadata.

Metadata extracted from photos uploaded by the targets in their social media accounts is known as exif data. It brings in information like the camera used in taking the picture, thus revealing the device name used by the target, the coordinates of the location where the picture was taken, the dimensions and format of the image, etc. Tools such as exiftool, fotoforensics have proved to be extremely useful in metadata extraction. In order to prevent the leak of





Shreya Hari

## Technical Articles



Sai Sriya V

their exif data, targets use attacking tools like verexif to remove the exif data from their image.

Forensics discovers counterfeit images, cloned images, and offers methods to magnify images sharply with a huge magnification factor to identify small and minute details regarding the target. Forensically is the most widely used tool for this purpose.

### Geolocation

Location of a target is one of the most important pieces of information one could have to trace the person and find his identity and other details. Tools like google maps, google earth, bing maps, yandex maps, zoom earth and wikimapia serve the purpose in providing the location details, and the different views of the location. Out of these, google maps and bing maps have been proved to be the most useful among all the other tools because they provide some additional details apart from the aerial, street and imagery view of the location like important places and landmarks near the location and specifics. Geonames being the world's biggest open access repository for coordinate data is a unique tool that takes in the name of the location and provides a set of location list, coordinates and other details. Herewego gives the latitude and longitude details. Satellites Pro gives us the satellite imagery and keeps marking the important regions on the level as we zoom in or zoom out. With a wide range of databases of maps and location details, geolocation tools are a very useful open data source when it comes to OSINT.

### Social Media

Unsurprisingly for OSINTing in Social Media we have a lot of tools. Many of the tools we looked at analyze the activity of public accounts on the different platforms namely instagram, twitter, youtube and facebook.

Hashtagify is a website that gives us all posts that use the particular hashtag we are searching for with graphical representation of its frequency along with other hashtags related to it. Many paid sites like Iconosquare, Picodash, Social Rank, Keyhole, etc. help us manage various accounts on different social media platforms.

For information pertaining to any YouTube video, Socialblade is the site. Socialblade is a free site that gives us all the information we need about a YouTube video, from when the YouTube account was created till how much the owner of the channel earns yearly from YouTube.

Most of the tools for Instagram and Twitter require us to log in to our own social media accounts to get more information. But if we want to get details from Twitter on a daily basis we have Twiangulate, Social Bearing, Tweetstats, Tweet Analyzer, Foller that give us information about the user as well as their tweeting style. Onemilliontweetmap gives us twitter activity around the world.



## Technical Articles



Bhavna Magendiran

And if you don't have an Instagram account but want find about information about a something, Gramho, Picuki and Instdp are the sites. Gramho and Picuki allow us to download Instagram photos, videos and view the comments. And to view Instagram stories or reels Instdp is the site.

We may wonder why so many tools are required for social media OSINTing since we can get all the information we need from their profiles itself. But when we are given a long list of people to OSINT about we will find these tools handy.

### URL Scan and Threat Intelligence

URL scanning analyses email content for embedded URLs and classifies them according to a Web sense database. Threat intelligence is the data collected, processed and analysed to understand an attack. Among the many OSINT tools Blueliv Threat Exchange provides a live cyber map, it also provides the recent type of attacks and their type. Fake spot, a chrome extension showed bad products or bad retailers in online shopping platforms. It also provided better offers but the accuracy of the extension is not up to the mark.

MX Lookup, Pulsedive and URLScan gives the threat level of the URL/ domain entered. It also provides additional details such as IP address, checks against black list, server location, other threats and vulnerabilities. Finally, Blackwidow, CLI osint tool, is used to gather subdomains, URLs, dynamic parameters, email, phone numbers.

### Vehicles

VAHAN seemed to be the most promising tool for vehicle OSINT. It provided details regarding the registering authority, registration number, date, owners number, vehicle class, fuel to all the details about the maker, model and NOC details. It works only for Indian vehicles. Find and trace is another vehicle OSINTing tool, this does not require login but provides fewer details compared to VAHAN.

### Database Leaks

Database Leak is the unauthorised transmission of data from within an organisation to an external destination, recipient or the public. IntelligenceX, Nuclear Leaks shows the breached databases, date of leak, hashing algorithm and also whether it has been acknowledged by the organisation or not. F-Secure, Moniter.Firefox, provides a list of breached databases where the entered email address has been found. It shows compromised data and other details with high accuracy. MD5Hashing, Crackstation is a tool used for cracking unsalted password hashes. Simple words are easily found but with increase in length and randomness the efficiency decreases.

## Technical Articles



Rajeev Krishna E

## Corporate Searches

In this age of industrialisation and with the emergence of corporates, the need for validating and monitoring establishments is required more than ever. Corporate Search provides valuable information about a company. Corporate search also helps in producing corporate reports, which is a document that verifies a company's information. The corporate report lists a company's true corporate name, registered address, and can sometimes list shareholder and director names. The search report also provides valuable information about a company and assists in the decision-making process and at the same time protects from unnecessary risks. Some of the tools used for Corporate searching include Opencorporates, Zaubacorp, Brownbook, Corporation wiki among many others. RipoffReport is a one of a kind tool used for filing credibility reports against organizations and also for reporting scams. OffshoreLeaks is another fascinating tool that contains details about all the Offshore companies. A corporate search should be adopted by the corporates and must be performed before beginning to work with a new customer or while making credit decisions.

## Cryptocurrency

Cryptocurrency is a digital or virtual currency that is secured by cryptography, which makes it nearly impossible to counterfeit or double-spend. Many cryptocurrencies are decentralized networks based on blockchain technology- a distributed ledger enforced by a network of computers. A defining feature of cryptocurrency is that they are generally not issued by any central authority, which makes them immune to government interference or manipulation. This striking feature of the cryptocurrency providing anonymity is considered to be a boon among many at a time where user identity is being compromised across the internet. But the same attribute poses a greater risk for mankind as it paves the way for fraudulent transactions to happen across the globe which are impossible to track. Thus stricter regulations are needed for cryptocurrencies and blockchain technology to be effective and for broad adoption.

Various OSINT tools such as Blockchain Explorer, Blockcypher, Etherchain and Etherscan provides blockchain information on Bitcoin and other cryptocurrencies including historical prices, the most recently mined blocks, the mempool size of unconfirmed transactions and information regarding the latest transactions. Another effective and powerful tool is Orbit- a fascinating CLI tool that explores the network of a blockchain wallet by recursively crawling through the transaction history and the data gets rendered as a graph to reveal major sources, sinks and suspicious connections.

**II Year CSWG Students Team**

## Wonders in Supermarkets

In this 21st century, supermarkets are one stop destination for all your grocery needs. There are many brands that have chains of branches in all corners of cities. On examining supermarkets like from local stores to international chains we observe a common pattern which boosts their sales.

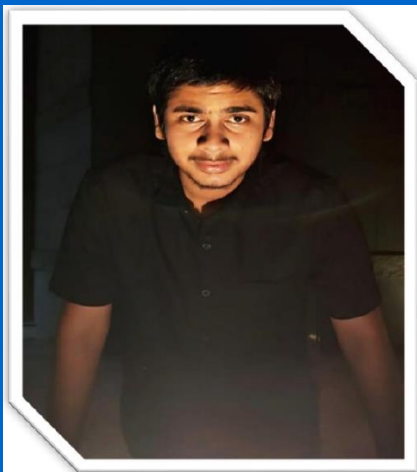


India's retail market is expected to increase by 60 per cent to reach US\$ 1.1trillion by 2020, on the back of factors like rising incomes and lifestyle changes by middle class and increased digital connectivity. Online retail sales are forecasted to grow at the rate of 31 per cent year- on-year to reach US\$ 32.70 billion in 2018.

In this immensely competitive field super market owners use different strategies (like from the lighting to ordering of food) to survive in this field and cherish. So lets us dig deep into the topic and find out what they actually do yield greater profits.

- Emotions and feelings play a key role in shopping.
- The trolleys given will have more depth which will make the buyer to buy more products which results in more profits for the supermarket.
- When you enter a super market you will notice that there will be vegetable and fruits section which are fresh and colorful will make the buyer in pleasant mood and have smooth shopping experience.
- Expensive items are placed in a box which is highly lighted. So, it attracts more people to just look at it which is also a scoring point for supermarkets.
- Music also plays an important role in shopping. Supermarkets play quiet, slow, gently paced music which will make people walk slowly. So, a

# Non - Technical Articles



research states that if this condition is provided people spend 38% more money.

- We use 80% subconscious memory for shopping so supermarkets try to sell products as soon as possible before we switch to conscious memory.
- The layout of the store is also carefully designed to give better customer experience.
- The flooring of the supermarkets is always white because white color will enhance the products color and appearance.
- In the middle of the store, the lights are duller so we stay long and spend more.
- They keep newly introduced products next to bestsellers as people will look into that product and potentially buy it.
- Smell also plays an important role in shopping experience. A research states that around 84% of people prefer pleasant fragrance and they tend to spend round 100 rupees more than they actually intended.
- The price tag is made up of 3 different colors (mainly red, yellow, white) so as to activate our subconscious memory and make us buy it.
- Overwhelming number of brands for a single item makes us pause for a moment in that section where we tend to look around and buy the item.
- The more congested the racks are, the more we feel the urgency to get out of it's the racks are well spaced to ease customers.
- Customers who come in empty stomach for shopping are most likely to buy more things so supermarkets tend to target those customers by stocking more amounts of snacks and ready-to-eat foods.
- Cool drinks and milk are placed at the end of the store so as to allow customers pass through a variety of products which they may tend to buy.
- Super markets giants actually hire psychologist to understand customer behavior towards shopping and provide grateful insights to increase sales.
- Lastly, when you swipe loyalty cards or Sodexo cards supermarkets keep track of your shopping list and they have team of experts who would do data mining with all of your data and would bring in new changes to convince buyers to buy their product.

**-ASHWATH S, Second Year**

# Non - Technical Articles



## OneDrop

### Co-Founders: Yuvan Arvind & Tushar Shah

OneDrop is a customised clothing start-up. We make custom hoodies, t- shirts-including round necks, polos and sports jerseys of premium quality. We at OneDrop strongly believe that quality is the most important aspect when it comes to clothing. We use the finest fabric for the products we make ensuring we deliver the best products to all our clients. We build trust.

Tushar and I were very keen on one thing, which is building a foundation for a company that didn't require investment as we didn't want to burden our parents and wanted to build a loyal customer/fan base for ourselves. Hence, we came up with a drop shipping business model which tends to be profitable even before we raise the purchase order. It's a very simple, yet profitable business model.

Speaking as a Co-Founder, clothing sector isn't a very fun zone to be in. It is highly competitive with excruciating deadlines and high cashflows. Thinking of it from a business perspective you may assume that all this is good, but as students who just stepped into a new market with very little knowledge it was a mighty task to lay the foundation for a company. As I mentioned earlier, when cashflow is high the margin for error is less, very less.

There were a lot of lessons to be learnt, some of which we learnt the hard way. But it was okay, because the two of us broke our heads and made it out of any situation we were in, and solved all the problems thrown at us in a very smooth manner. Choosing the right partner for your venture also plays a major role, you need to know the person pretty well and build some level of trust with them, it might be time-consuming but it's worth it.

First thing we learnt as individuals is that when you are a budding entrepreneur, you need to learn something new every single day. Learning is one of the key aspects of entrepreneurship. And secondly, personal branding is first form of marketing any individual can use to build a brand. When you're out there, you need to stand out, you shouldn't just survive, you should thrive. Once you build an audience for yourself, you will get the customers you need for whatever product/service you build.

**Stop thinking & Start doing!**

Non -  
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## தனிமை

தனிமை என்பது மற்றவர்கள் என்னைப் புறக்கணிப்பதால்

நான் எடுக்கும் முடிவல்ல,

நான் மற்றவர்களைப் புறக்கணிப்பதால் எடுக்கும் முடிவு!!!

தனிமையானது விரக்தியினால் ஏற்படுவது அல்ல,

மற்றவர்கள் புண்படக்கூடாது என்ற நன்னோக்கத்தினால் ஏற்படுவது!!!

தனிமையாய் இருப்பது என்றும் ஒரு குறையாகாது,

அது தன் குறையைத் திருத்திக் கொள்ளக் கிடைக்கும் அரியவாய்ப்பு!!!

துன்பம் ஏற்படும் போது தனிமையாக இருந்தால் தான்,

அத்துன்பத்தைப் போக்க சிறந்த முடிவு எடுப்பாய்!!!

வருத்தத்தில் நீ அழும் போது, உன் கண்ணீரைத் துடைக்க

யாரையும் எதிர் பார்க்காமல், உன்கையே துடைக்கும் பார் ,

அது தான் உன் தன்னம்பிக்கை!!!

முயற்சியில் தோற்கும் போது இது முடிவல்ல, இனி தான்

ஆரம்பம் என்று உன்மனம் சொல்லும், அதுதான் உன்வீரியம்!!!

தனிமையாக இருக்கும் பயனால், உன்னால் மற்றவர்கள்

பாதிக்கப்படவில்லை என்பதே, உனக்கு பெரிய வெற்றி நண்பா!!!



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## ஒருதலைக்காதல்

நித்தம் உன்வருகையை எண்ணி இருள்நீங்க  
ஆதவன் வருவதுபோல் என்வாழ்வில் ஒளிவீச  
வந்தாய் என் தேவதையே!!

அவள் கண்ணசைவுகூட கவிபாடும் என்பதை  
கண்ணதாசன் அறிந்திருந்தால் அவள் அழகை  
வர்ணித்து கவி செதுக்கியிருப்பான்!!

கண்ணக்குழி அழகினில் நீபார்க்கும் போது  
வறண்ட பூமியில் மழைபெய்து

தென்றல் வீசுவது போலாகும் கண்மணி!!!

உன் உதடுபேசும் வார்த்தைகள் ஏனோ எனக்கு

இளையராஜாவின் மெட்டுக்களைப் போன்று

கேட்கிறது காதலியே!!

பூக்களும் பொறாமைப்படும் உன் அழகைக்கண்டு,

குயில்களும் கூச்சப்படும் உன்குரலைக்கண்டு.

மயில்களும் நாணம் கொள்ளும் உன் நடனத்தைக்கண்டு!!

என் காதலைத் தெரிவித்தால் ஏற்கமறுப்பாயோ

என்ற ஏக்கத்துடன் தொலைவிலிருந்து

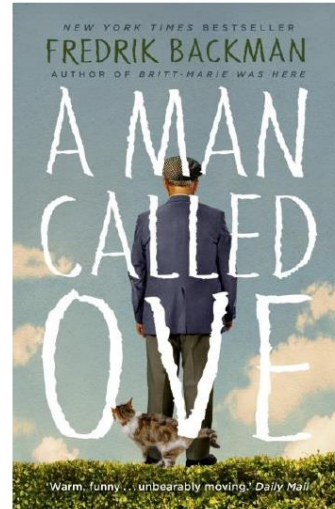
உன்னை நேசிக்கும் உன் ஒருதலைக்காதல்!

- Veeramani Murugesan, Final Year

Non -  
Technical  
Articles



## Book Review – “A Man Called Ove” -Fredrik Backman



We all would have come across an old age person yelling at us for engrossing in that cellphone of ours and how their generation’s younger self have been out in the field exploring and doing more “useful stuff”. We would have chuckled that out as mere grumbling and never actually listened and gave a fore thought from their perspective. After I read this book, it made me take a pause and appreciate and learn from my surroundings. It made me appreciate life from a different angle. **“A Man Called Ove” is exactly the book that covers this perspective.**

The Protagonist in this book is the old man, Ove, a man of rules and principles. Ove is a typical old man who gets angry towards people who can’t repair their own bicycle, who can’t reverse their car perfectly and in general, anyone who derails or unaware of the “basics or fundamentals” one is ought to know. He expects everyone to be scrupulous. He is as simple as that. He doesn’t expect anything from anyone and does his duty diligently, when one fine day morning after few days his wife died, he is removed from his job citing his age and how he survives after that alone is the plot.

This book spotlights life in a different manner and how all the events happening in our life coalesce to shape us better and have a sanguine approach to life. Stating some of exemplary lines from the book,

“We all think there’s enough time to do things with other people. Time to say things to them. And then something happens and then we stand there holding on to words like ‘if’  
“You only need one ray of light to chase all the shadows away”.

This book is serious yet humorous in its own way, would definitely touch your soul and make you imbibe the positivity and feel good that is life.

**-Divya, Third Year**

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Corner



## Significant techno-commercial AR/VR based trends in Marketing In the eyes of a marketer

**Jayaram hariharakrishnan (2015-2019 Batch)**

PGDM - Marketing

Class of 2021

SP Jain Institute of Management & Research (SPJIMR)

### About our alumni

Jayaram Hariharakrishnan is a management trainee with Pidilite taking care of the fevicol sales and marketing for the Chennai region. He pursued his PGDM degree in marketing from SPJIMR Mumbai and did B Tech in Information Technology from SSN College of Engineering. He is passionate about technology and its imperative use in everyday marketing and utilization of deep learning and artificial intelligence resources applicability in business context from a pure product point of view. He is part of Harvard business review committee and reading through research orientated articles and journal submissions are a great resource to help him understand the current trends amongst the erudite industry and academic experts. - Dr. T. SreeSharmila

### Thoughts of Jayaram on AR/VR Trends

AR and VR are becoming more common within marketing, allowing brands to craft experiences, engage consumers and encourage conversions in interesting ways. More than ever, marketing is being driven by the wants and needs of the customer. As new technology becomes available, customers want brands to deliver experiences that use it. This means it is important that brands keep pace with new advances in order to meet customer expectations and deliver the best possible experiences. This is why marketers need to consider how virtual reality (VR) and augmented reality (AR) can be used as part of their marketing strategies. When you consider the fact that these technologies are already disrupting sectors, failing to utilize them could leave you lagging behind your competition.

- Access to smartphones means that the average consumer can now enjoy AR/VR, so you need to pay attention to it. AR/VR marketing allows companies to bridge the gap between experience and action. You can use AR/VR to offer a digital experience in place of a physical one, which can promote products and services.
- As well as promoting existing products, you can also use AR/VR to showcase those that are in development. You can invite your customers along on the journey as you create something new, this will help to get them invested in what you are creating – as well as give you a source of feedback.

## Alumni

## Corner

Most importantly, AR/VR changes the dynamic between brands and consumers. Rather than using ad blockers or clicking out of ads as quickly as possible, people seek out AR/VR brand experiences. This means your engagement rates can improve as people come to you, rather than you needing to attract them.

Distinguishing your brand by using AR/VR provides a huge competitive advantage, especially as the technology is only going to become more popular. Marketers who embrace this technology as a marketing tool now are able to test and innovate new tactics before AR/VR really explodes. When AR/VR does become the norm, their brands will be at the forefront of the field.

Augmented reality can take branding materials like business cards and brochures to the next level by adding a virtual component. Users are able to scan printed materials with their mobile devices to access a range of features giving them more information and ways to get in contact with the brand.

### **Some significant examples:**

Augmented reality (AR) adds digital elements to a live view. We often see this being done by using a camera on a smartphone. For example, Ikea's AR app – Ikea Place, which you can download on your phone and through the phone camera, view how their furniture will look like in your home or office.

Virtual reality (VR), on the other hand, is an immersive experience in a simulated physical world. VR technology involves the use of VR devices like Oculus Rift, Google Cardboard, HTC Vive and such. Consumers can be physically put in a simulated environment to know what it would feel like. For example, Virtual Spaces makes VR solutions for Real Estate clients who would like to make their consumers experience and book their home even before the construction is completed.

### **Ecommerce Is Revolutionized**

When heading out to the mall for retail therapy is not an option, AR and social networks like Snap chat are coming to the rescue. While trapped in a global health crisis, augmented reality gives marketers and brands the power to thrive without putting consumers at risk.

Case in point – Gucci recently launched its first-ever shoe-try-on lens with Snapchat using the powers and style of augmented reality. All you have to do is scan the promo shop code and get access to try-on the latest trends in footwear fashion.

### **Engagement Is a Close Encounter of a New Kind**

AR and VR make engaging with your audience accessible in this era of social distancing, quarantine, and beyond. Virtual concerts, fashion shows, and augmented tours are allowing brands to entertain, educate, and launch without a physical audience. Social networks are the platform and in many cases, no headset is required. John Legend with Wave, a social music venue, hosted his first virtual live concert. The virtual concert attracted more than 500,000 attendees and raised awareness for Legend's FREEMERICA campaign, with the goal of transforming the U.S. criminal justice system. Attendees watched John Legend's avatar perform his legendary songs which marked history in virtual reality events this month.

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### New Marketing Realities of AR, VR

VR gives a sense of real, raw, and being there type of feeling more than a two-way Zoom video could ever do. As virtual reality becomes a marketing reality, virtual people become part of the cast. The World Health Organization (WHO) recently launched a campaign using its first virtual health worker named Florence. Her mission is to help users quit tobacco use. "Users can rely on Florence as a trusted source of information to achieve their quit goals. She can also help recommend tobacco users to further national toll-free quit lines or apps that can help you with your quit journey," said WHO on its official YouTube website.

- Local SEO is also something to take into consideration as places become searchable in augmented reality using your smartphone. Imagine users no longer searching with a browser and searching with their camera. Making sure your business is optimized on local platforms such as Yelp and Google My Business is an important checkbox for local SEO and augmented reality. Google Maps currently has a "Live View" using AR that overlays to navigate you to your destination.
- *"Artificial intelligence would be the ultimate version of Google. The ultimate search engine that would understand everything on the web. It would understand exactly what you wanted, and it would give you the right thing. We're nowhere near doing that now. However, we can get incrementally closer to that, and that is basically what we work on."* — Larry Page, Founder of Google

References and links that one can refer to:

1. <https://contentmarketinginstitute.com/2019/06/ar-vr-stories/>
2. <https://mbryonic.com/best-vr-marketing/>
3. <https://www.forbes.com/sites/cathyhackl/2020/06/18/5-things-every-cmo-needs-to-know-about-how-ar-and-vr-are-changing-marketing/>
4. <https://blog.hubspot.com/marketing/augmented-reality-examples>
5. <https://medium.com/iquii/augmented-reality-and-brand-experience-examples-and-business-opportunities-for-companies-6dc6e2ad7f38>



## Alumni Corner



## The brighter side

**Jananie R B (2016-2020 Batch)**

Associate Software Engineer at Navis LLC

### About our alumni

Janani RB has been one of the most consistent performers of our department right from day one. Janani's greatest strength is her research orientation and practical implementation of classroom learning. She is exceptionally diligent and hard working. I also know her as a multi-faceted person, whose talent goes beyond academic excellence. – Dr. N. Radha

### Let's Enjoy the Words of our Alumni

The gates are closed  
But the path is wide  
The bird is caged  
Yet ropes untied

The shoes are worn  
Yet the feet tap quiet  
To the soundless beats  
Of heart's appetite

The woods, obscure,  
Yet grow to entice  
Chilled waters run deep  
Yet floats a chunk of ice

Within high castle walls,  
If he isn't Mr. Right  
Perhaps, a cosy cottage houses  
Your shining armoured knight

The sun bid goodbye  
But the moon began to glow  
Today was terrible, mate,  
You'll wake up to tomorrow

Oases may run dry,  
Just walk on with a smile  
For, O lost vagabond  
Not far from you flows the Nile!



Alumni

Corner

## SSN TO SUNY BUFFALO

Roshni Murali (2010 -2014 Batch)

### About our alumni

I am happy to introduce Roshini Murali. She is a very bold and self-supporting person. She is confident and strong to finish up the task whatever she takes. She was a student reporter in Hindu during her undergraduate period at SSN. I also found her Teaching Maths and English to underprivileged kids in high school. Wishing her all success in her endeavor! - Dr. P. Vasuki

### Experience of Roshni

As a graduate in the stream of Computer Science, I would like to advocate University at Buffalo ( State University of New York at Buffalo) as a great place to pursue a Master's degree.

A little about the University and place-

Located in the quiet and calm city of Buffalo, this University has 3 campuses – North , South and Downtown which provide a variety of courses. One of the major attractions of Buffalo is the Niagara Falls – a famous tourist spot. One can witness all four seasons throughout the year. This place is known for its subzero temperatures and here's where I saw snow for the first time and fell in love with the place. UB provides affordable cost of tuition (cheaper than most universities in the US) and has great faculty. It also provides plenty of research and teaching opportunities and has a good mix of culture and diversity. They also provide a plethora of part time jobs so that students can support themselves.



# Alumni Corner

A dive into what grad life looks like-

Grad life is mostly juggling between academics and a part time job. It's about being your own boss, paying your bills (nobody likes this) and making sure you eat healthy (junk food is surprisingly cheap). It also means networking and learning to deal with a lot of rejection. You will also realize that people always plan two steps ahead of you and are secretive about what they do. So you have to be alert, on your toes and plan ahead.

What's my takeaway from this ?

This 2 years journey has provided different experiences for different people. But I'm pretty sure that every student had a period of struggle . I am not the same person I was 2 years ago and have evolved a lot as a person. I have learnt to make better decisions, learnt to be comfortable with being with myself – happiness does not always come with company. It has also helped me identify friends who have my back during a crisis .

The courage and confidence to take up this journey might be hard to muster. People around you might not readily provide it. As a woman , I faced a lot of criticism and objection to this venture. A lot of people freely offered different opinions about this choice of mine(even though I dint ask for it) . I realized in the end all that mattered was my opinion.

So to conclude, I would like to state –

I'm a little more wiser, a lot more stronger and a whole lot more independent than I used to be – and I don't regret any decisions I made along the way.

If you are looking to venture out and have any questions about the university and the course, feel free to reach out to me at my email – [rmurali@buffalo.edu](mailto:rmurali@buffalo.edu) or connect with me on LinkedIn .



**Roshni Murali**

Software Engineer at Wayfair

Boston, Massachusetts, United States

## Alumni Corner



## Think Sustainability in your online shopping

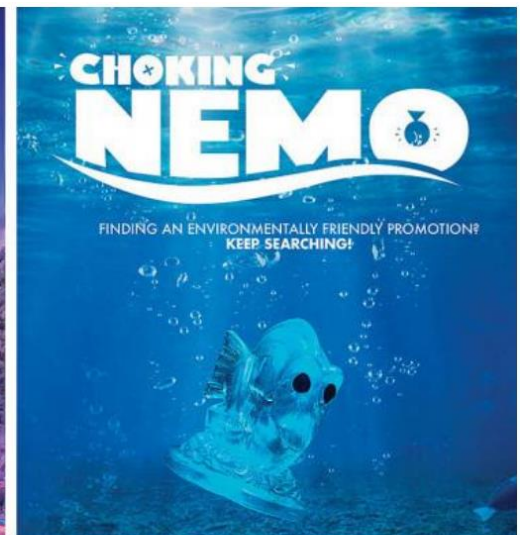
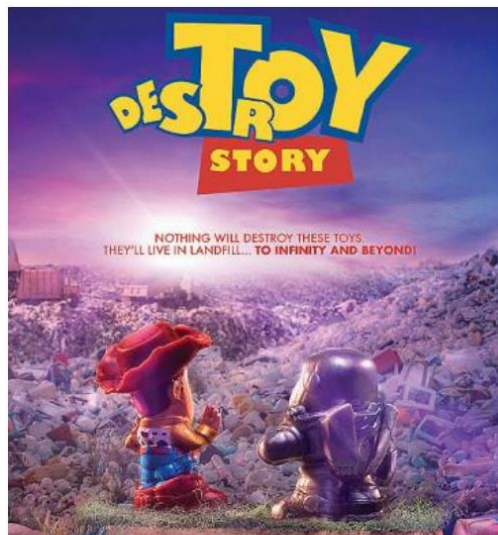
**Nilofar Parveen Raj Mohamed,**

Department of Information Technology - SSN Alumnus - Batch of 2013-17.  
Pursuing Masters in Information Technology at University of Technology,  
Sydney, Australia.

### About our alumni

It gives me immense pleasure to introduce Ms. Nilofar Parveen R. She excelled in all aspects of academics; She was a tenacious performer. She displayed immense dedication to excel in her studies by being regular in class and showing deep intellectual curiosity to learn and understand the subjects better. – Dr. A. Sandana Karuppan

### Nilofar's thought on sustainability



Source: <https://www.futurelandfill.org/>

Globally, many people have shifted to buying all their necessities online due to the seamless shopping experience. In 2019, it was estimated that 14.1% of all the global retail sales were through e-commerce channels. The covid-19 pandemic has brought out significant changes in the e-commerce consumer base by annexing customers who have never made a purchase online and encouraged them to shop online for their first time. The convenience of home and no-contact delivery, speed shipping, and personalized shopping experiences ensure customers will not move away from shopping online.

Packaging is identified as an essential aspect when trying to improve the customer experience for e-customers in online shopping. While concentrating on the business objective of safeguarding the customer's product, the e-commerce industries ignore the environmental impact created by its copious packaging. In April 2020, the reports from last-mile

## Alumni

## Corner

technology vendor Convey Inc. conveyed that the e-commerce package volume has increased approximately 60% for its 130 retail clients in the

past year alone. E-commerce industries continue to use plastic for packaging due to many factors such as its low-cost, pliability, durability, flexibility, and hygiene. Global plastic packaging is projected at 58.6 million tonnes, according to Smithers report. The total plastic packaging share consists of about 60 percent of the entire plastic market. (Forbes, 2020).

The United Nations(UN) in 2019 has issued a warning that we have reached the surmount of earth's capacity to sustain humanity, and it is high time we move away from deep-rooted habits that are leaving adverse footprints. A study has estimated that approximately around 12 billion metric tons of plastic wastes will end up in landfills by 2050 (National Geographic Society, 2019). Even though the e-commerce companies claim to use recyclable plastic materials, most of such packaging ends up as waste causing environmental concerns such as plastic land dumps and ocean fills. Eliminating single-use plastics out of the system alone does not guarantee that plastics are out of landfills. Most plastics end up not being recycled and either stay accumulated with the customers or reach the landfills at the end of the day. National Geographic has released a shocking statement that over 91% of the plastics are not recycled and end up as litters polluting the land and marine environment (National Geographic Society, 2019). Improper disposal of plastic wastes on the land is the major contributor to marine plastic pollution. Scientists have warned that by 2050 there will be more plastic bottles in the sea than fishes, and it is only a matter of time the plastics will enter our food chain (World Economic Forum, 2016). In 2019, Oceana, a non-profit ocean conservation organization, announced that the plastic wastes generated by one of the e-commerce companies alone could circle the earth over a hundred times in the form of air pillows (Forbes, 2019). Packaging is one of the major factors of plastic pollution, and yet it has become a ubiquitous part of our life.

It is evident from the above reports that the e-commerce packaging industry is a significant contributor to plastic waste generation. Collecting the recyclable packaging from online orders and bringing them into a closed-loop is essential to avoid them from being thrown into waste. The below website offers insights into what best we can do to make sure the plastic packaging wastes get recycled. Opting for such responsible unpacking behaviour can help our planet to cope with the imminent plastic crisis. <https://recyclenation.com/2020/08/how-to-recycle-all-types-of-amazon-packaging/>.

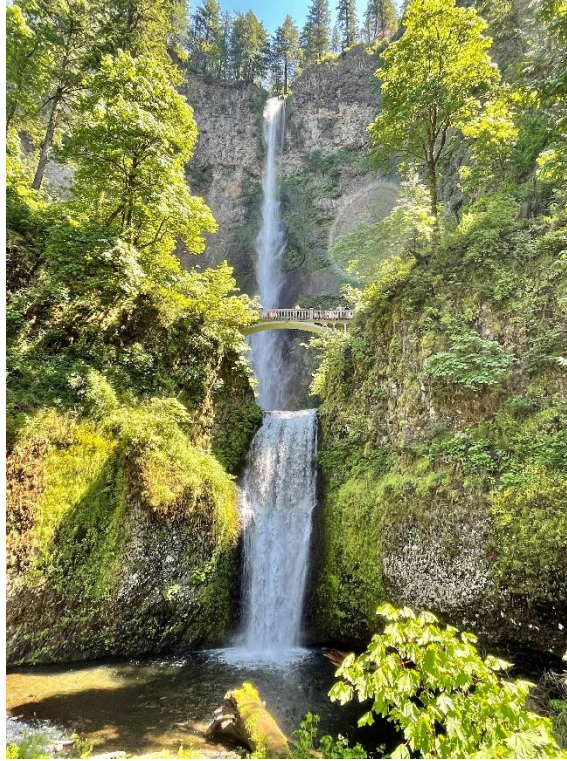
Student clubs can organize on-campus activities during weekends where, students can drop off plastic packaging wastes from their online orders. Ensuring the packaging wastes end up in recycling centres as part of a collaborative student program can make our campus eco-friendlier and reduce our global plastic footprint. Even if collective recycling programs seem far-fetched, opting to recycle the plastics from our online orders individually is a small step we can do to save the earth from plastics. So as an environment-conscious earthling, choose responsible unpacking and recycling in your next online order. A small step in our todays can make a huge difference on our tomorrows.



## Photo Booth

**Jerold Jacob,**  
SSN Alumnus - Batch of 2014-18

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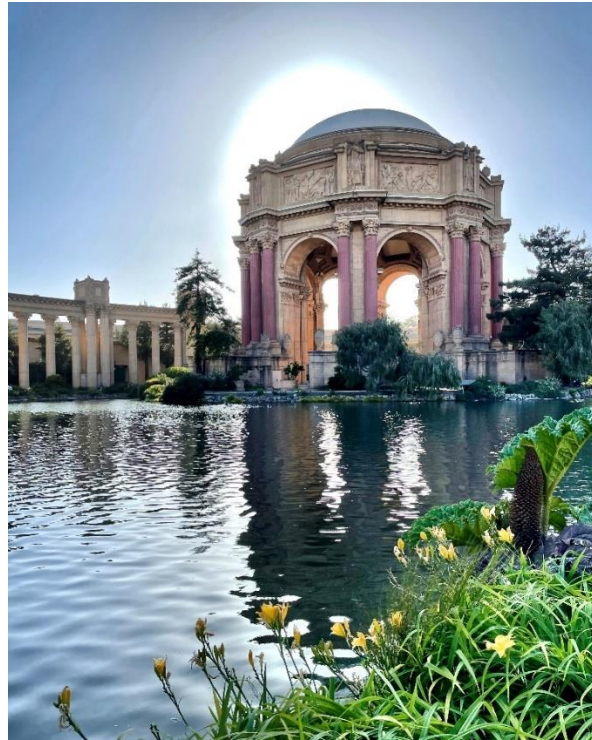
**Multnomah Falls**

**Sunset by the  
Pacific - Rodeo  
Beach**



Alumni  
Corner

Photo Booth



Palace of Fine  
Arts

Golden Gate  
Bridge





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*Thank  
you*

