DEPARTMENT OF INFORMATION TECHNOLOGY

presents

IdentITy

From the HOD's desk

Greetings!

Welcome to the second issue of IdentITy of this academic year. This newsletter is produced by the department, for the department, and intends to showcase the best of July till December '22!

In this issue, you will find a wide range of activities that involve Invente'22, ProCode, Research Internships collaboration with other colleges, VIVID 6.0, Workshops, IEEE events, and alumni talk series, with insights on placement stats and experiences, NPTEL achievements, and department toppers. In addition, it has many articles penned by our Alumni and students on emerging technologies, facts and experiences, poetry, artworks and photographs that are thought-provoking and engaging.

Dr. C. Aravindan
Professor and Head of Department,
Department of Information Technology

Student Editors' Note

Our editorial board is thrilled to present to you the latest version of our beloved *half yearly magazine!*

This newsletter is a potpourri of student, faculty and alumni contributions, creative inputs in the technical and non - technical domain. We thank **Dr. A. Shahina, Dr. P. Vasuki** and **Dr. S. Karthika** for their guidance. **Major credits go to the hard work and team effort of our student editorial board** who have helped this magazine culminate into the final product that you're reading.

Will be back in future with more freshly brewed content!

Wishing you a pleasant read,
Editorial Board

Reach out to us at:

team-identity-ssn@ssn.edu.in

Hearty Welcome!

Ms. Sornavalli Ganesan

Assistant Professor
Department of Information Technology
since December 2022

Education

She finished her schooling at Chinmaya Vidyalaya, Rajapalayam. She was one of the district Matriculation Board Toppers and secured 97% in Tamil Nadu Higher Secondary School Board Examinations with a centum in Mathematics and Computer Science. She did her B.Tech. (IT) at College of Engineering, Guindy from 2012-2016. She did her M.E (CSE) at College of Engineering, Guindy from 2016-2018 with a CGPA of 9.5. She is pursuing her Ph.D. in Department of Computer Science, College of Engineering, Guindy, and submitted her thesis titled "Prediction of Stock Markets using Artificial Intelligence Algorithms" on September 2022.

Teaching areas of interest

Machine Learning, Artificial Intelligence, Data Analytics, Algorithms, Operating Systems, Computer Architecture.

DEPARTMENT EVENTS

INVENTE

1 – 2 December 2022

Invente is one of the finest tech fests that happen in all of India. It is a two day event that bring together promising engineers to flaunt their talents and discover their latent interests. It is one of the giant national level technical symposiums. All the departments of SSN and SNUC come together to put up this enormous event.

Our seniors worked hard to coordinate this great event for around 2 months from August. Invente was to Dec 1 and 2 from Nov 3rd and 4th due to unforeseen weather circumstances. It had a great amount of response from other colleges and had supportive sponsors. **Invente had sponsorship from several companies like HCL, GeeksforGeeks, Mr.Cooper, Facilio and Saama.**

There were 7 events by the IT department in total, out of which 5 were technical and 2 were non-technical. ML/DL workshop was one experienced tour, around the recently flourishing world of ML. It is a vast topic and therefore our workshop helped the young minds to have a clear insight in it. **Codera, websitica and reverse gear** were the coding competitions that we had.

Codera is an essential event that checks for the efficiency of algorithms and data structures knowledge in the participants. Students from all over the country participated in that and the one who managed to find the most optimized solution was the winner.

Websitica is also a creative event that tested participants' ability to create quality, user friendly architectures for the websites in the knack of time for the on spot topic. Both the front and back end skills were tested in this event.

Reverse gear is one distinctive event that required reverse engineering of the code to win the competition. It put the participants' intelligence and capability to reconstruct an logically preserved incomprehensive code to it's original form.

Brand it is a brand new event introduced this year to inculcate business and management skills and to nurture the ideas of all the pudding and prospective entrepreneurs. It was a promising knowledge experience for anyone who participated.

Sysops was the most important event with the highest prize pool of 18k. It certified the knowledge of the participants on system design and the one with the best solution and implementation was the winner. It sharpened the problem solving ability and creative thinking skills of the participants.

Apart from all these technical events, we also had a paper presentation event that encouraged all the students to put their creative ideas into paper and gave them an opportunity to present it and get them evaluated.

There were also fun filled non technical activities in which both SSNites and other college students participated. FIFA kickoff challenge attracted a hefty crowd to it. All the participants enjoyed playing the game. Dumb charades was equally attractive to the young crowd. Even the non technical events tested the strategizing abilities and critical thinking skills of the participants.

On the whole the event was a massive success which was completely courted by the students. All the volunteers who came together to organize the event felt that they have learnt a lot of organizing and management skills.
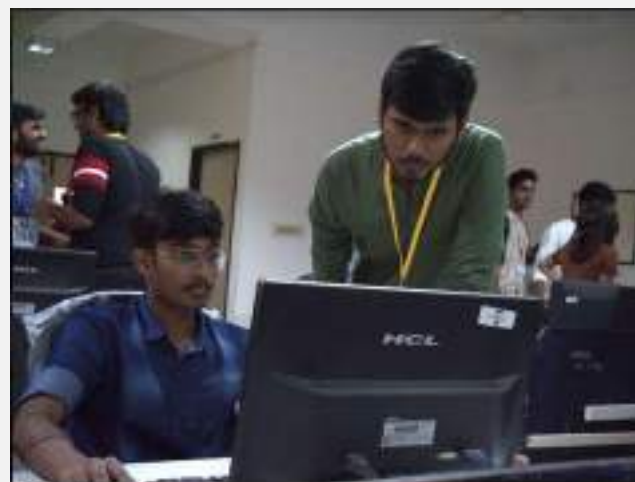
PROCODE
– an intra-department coding club of IT

Procode, an intra-department coding club of IT, comprises of vibrant and young techies who intend to share knowledge via **events**, **competitions**, **guest talks** and also provides guidance to newbies. The club deals with various software skills such as **Competitive Programming**, **App development**, **Web development**, **Machine Learning** etc.

This year the logo of the club is redesigned to be :

The sessions for this academic year embarked on the topic of **interview preparation** on **online mode** on **13th August 2022**. The heads shared their strategies that enabled them to crack interviews and different resources and practice methods that helped them.

The **first offline meet** on **10th October 2022**, gave a preface where various team heads elucidated their roles in events organization and how the students can benefit from the same.

The key to success lies in disciplined practice and frequent tracking of the mistakes to self evaluate especially in competitive programming. The heads of Procode took this into consideration to host a **competition exclusively for sophomores** at IT where separate sets of questions and test cases were set in **Hackerrank platform** on **11th October 2022**. The response was massive where more than **75% of students** had taken up the test and made this event a success.

The following week, on **1st November 2022**, a session on **App development kit**, **Flutter happened online mode** that gave exposure from familiarizing with Android studio interface to flutter basics to adding dependencies and large number of resource links were shared.

On **18th November 2022**, **the Data structure and Algorithms** session happened where the beginning of Competitive Programming and methodology to approach and problem-solving were discussed. The intro to various kind of problems and approaches, time complexity were also discussed.


The next session on **26th November 2022** dealt with quite an important topic whose skills are highly demanding in the industry. It was about **"Git and GitHub"**. The necessity for open source contributions, how developers could benefit from the same, key difference, basic commands delivered with a bit of humor by 3rd year students. The overall knowledge transfer was interactive and proved to be efficient in terms of learning.

Research Internships for other college students

The Department of Information Technology organized the **external research internship for students from other institutions in online mode during July-August 2022.** There were 06 research projects that were shortlisted, and two of them successfully completed the internship.

The scheme had active students participating from the colleges like **Manipal institute of technology, Sri Venkateshwara college of engineering, and Dhanalakshmi Srinivasan engineering college.** They were mentored by our faculty members from the department of IT. The major thrust areas were artificial intelligence and Machine Learning, Image Processing, and Internet of Things.
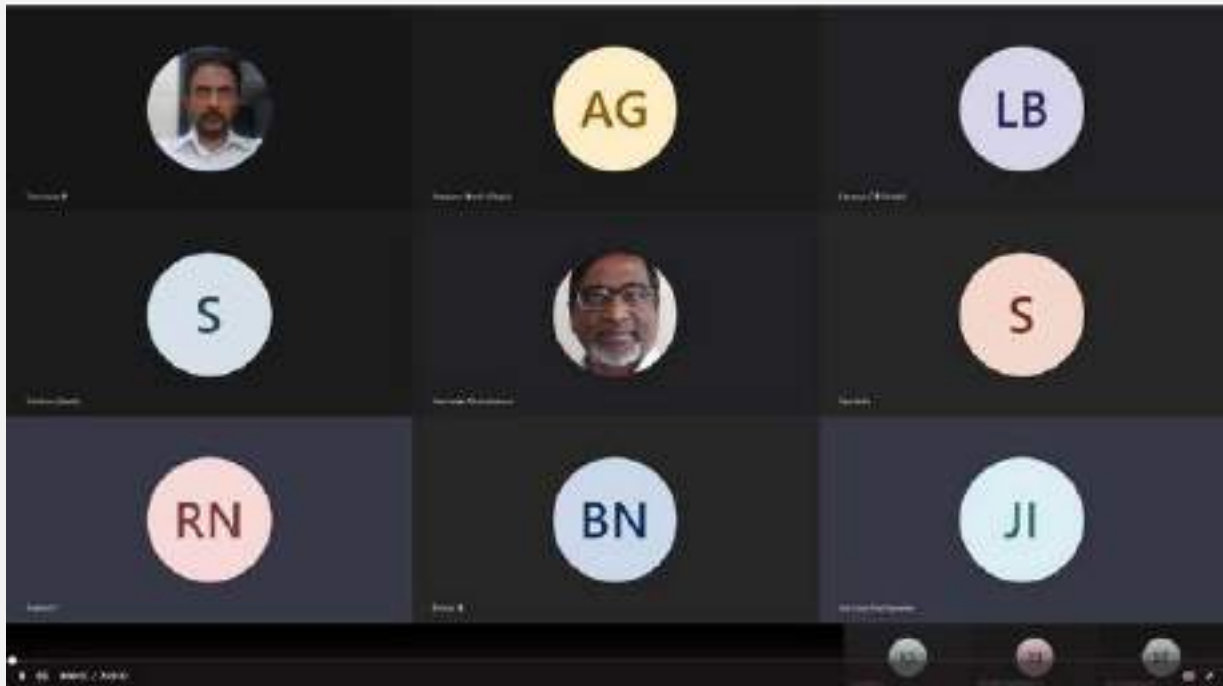
Automatic Speech Processing
(A Bootcamp with Hands-on Workshop)

Improving artificial intelligence and the ease of human-computer interaction can be considered the biggest and most talked about as well as challenging research problem nowadays. Speech plays a key role in making communication with computers natural and cognitive. However, in the past, research on speech recognition and surrounding research areas was a challenging task, and poor performance of speech systems or dearth of intelligent support became a daunting problem for researchers for many years. **But the recent breakthrough and developments in deep learning and its incredible potential to solve such complex problems revolutionized speech systems' performance by making them more cognitive and hence intelligent.**

Realizing the significance of research in speech processing, **a one-day workshop on automatic speech processing and its applications with hands-on was organized for the students of SSN with the objective to train and motivate the aspirants to learn the basics of Automatic Speech Recognition (ASR), and also initiate research and development in ASR.** The workshop covered the fundamentals of speech production, speech signal processing, speaker recognition, speech recognition models, and building ASR systems. **The workshop also provided recent industry approaches in speech and speaker recognition and developments, issues and challenges, and emerging research areas in speech.**

The workshop started with a brief but insightful introduction to speech processing where the participants grasped the need for speech processing, learnt speech production mechanisms in humans, its essence in speech processing and various applications such as speech recognition, language identification, speaker recognition, emotion recognition, etc. The session speaker Dr. N. Sripriya covered time-domain and frequency domain speech features that are required for building any speech system.

The next session was on Speaker Recognition and Spoof Detection by Dr. M. S. Saranya, Research Scientist, Pindrop, United States which assisted the participants to understand speaker identification and it differs from speaker verification. Since most enterprises are shifting to seamless voice-based authorization, the speaker highlighted the spoofing threat and the need for building robust speaker recognition systems.

Many modern devices and text-focused programs have speech recognition functions in them to allow for easier or hands-free use of a device. Hence, a session emphasizing the significance of speech recognition and the challenges in building automatic speech recognition systems was planned and handled by Ms. Vasumathi Neralla (AI Engineer, Silo AI, Finland).

A hands-on session on building an End to End speech recognition system using Connectionist Temporal Classification (CTC) was the highlight of this workshop. This hands-on session handled by Dr. P. Vasuki, helped the participants to overcome the inertia of working with speech recognition systems.

This workshop acted as a spark for identifying and a venue for incubating the next waves of research in the areas of speech processing as well as for interaction and collaboration between the participants. It also encouraged the participants to work further in the area of speech processing and automatic speech recognition.

VIVID 6.0
NATIONAL LEVEL PROJECT COMPETITION

The 6th edition of VIVID, a competitive, national level project presentation event was organized by the Department of Information Technology on the 30th of September 2022. With over 120 students and a variety of jury members, the event was a great success and a huge learning experience for all. **There were total of 12 jury members among whom 6 were our college** alumni Mr. Arunachalam G (2014), Mr. Jayaprakash J, (2015), Ms. Chandini.S, (2016), Mr. Muthupalaniyappan Muthuraman (2018), Mr. Logesh S (2015), Mr. Sai Vignesh (2018).

Students from various different colleges participated in this competition to showcase their Hardware or Software projects or ideologies. A total of 4 tracks/halls were allotted for this competition and were conducted simultaneously. **Projects on domains like IOT, AI, ML, Blockchain, Data Analytics, Cyber Security were depicted in the competition.** All the editions of VIVID were much appreciated by the staff and students of the institution.

This competition started with the opening ceremony where the chief guest and our jury members for the competition were welcomed. Following which the competition started in each track where around 2 to 3 jury members were allotted for judging the presentations by the students.

The competition was divided in two main categories, Ideation and Project/Demo. In the ideation category, students were encouraged to present their creative ideas to various different problems whereas in the project category, students had to present their completed projects along with a demo of their working model. This year, a unique track called 'Inhouse' was opened exclusively for students from SSN. **Overall from each track about 2 to 3 teams were selected by the jury members for the power judging round. The power judging took place for about an hour and top 3 teams selected and awarded.**

The aim and direction of VIVID was to bring about a healthy competition among the students to work in a team. This will certainly be an added benefit for all the participants to work on a team-based scenario in their future career. It was also to be noted that VIVID brought about an ingenuity and creativity in nurturing the talents of students which will definitely be an outstanding personal credit to them. On behalf of the team, I sincerely thank the staff and management of our college and university for their constant support and encouragement. I really hope that the road map set by this student team will be a model path to promote and encourage the staffs & students to contribute and make VIVIDas the best National Level competition in the forthcoming years.

DISTINGUISHED VISITOR PROGRAM ON
"A 7-level home automation system"

The department of Information Technology, SSN IEEE Student Branch, IEEE Computer Society Student Branch Chapter in association with IEEE Computer Society, Madras Chapter organized a distinguished visitor program on *"A 7-level smart home system"* by **Dr. C. Aravindan, Prof. & Head, IT** and **Dr. T. Sree Sharmila, ASP, IT, IEEE SB Counselor**. The event happened at the ECE Central Seminar Hall on the 11th of October 2022 from 11 AM. **Mr. Mohamed Rawidean, a DVP speaker of IEEE Computer Society** having over 20 years of experience in the **design, development, and installation of smart home systems**, educated us on its various levels depending on complexity and ease of use while concurrently explaining the obstacles faced by smart home developers and enthusiasts around the world. The talk was followed by a **quiz conducted by Mr. H. R. Mohan, Vice-Chair, IEEE Computer Society, Madras Chapter** who livened up the event by adding cash prizes to each of the questions. A total of **70 participants** benefitted from this event.

IEEE DAY 2022

SSN IEEE Student Branch organized **IEEE Day 2022** on **28 October 2022**. On this day, IEEE societies of SSN will come together to present a **combination of astounding technical and staggering non-technical events**. IEEE day is a great opportunity to share excitement and joy with the engineering and technology community around the world.

WEBINAR ON BEAUTIFUL SEQUENCE-KOLAM

IEEE Women In Engineering of Madras Section jointly with SSN IEEE Student Branch organized a spellbinding workshop, **"Beautiful Sequence - Kolam"**. The motivation to organize this webinar was to **inspire the participants** with the concepts behind the custom and beautiful, tricky design - Kolam.

The guiding light of this topic was **Dr. R Srinivasan, Professor in the department of Information Technology,** SSN College of Engineering. The session embarked virtually on 17th November, 2022 at 6 PM IST with a warm welcome to the dignitaries and attendees present. Following that, the attendees were given **cognizance** on what the session is all about and what will be their key takeaways. Dr R Srinivasan **kept all in toes** throughout the presentation. He explained the concepts behind Kolam in such a **simplified understanding style** in which pointed out that the design depends on just two things - the **number of arms** and **number of dots.**

He **demonstrated** the concepts behind Kolam including the popular - Hridaya Kamalam. He then enlightened on his work - **Reverse Hridaya Kamalam**. The session came to an end with a live **MATLAB demonstration.** To commemorate this session, the attendees clicked a group picture with the speaker. To make the final closure, Dr. Soma Prathibha, Vice Chair, IEEE WIE MAS expressed her gratitude to the speaker and the attendees for taking time and attending this session and celebration of IEEE Women In Engineering Madras Section. A total of 60 participants benefitted from this event. Truly an enthralling and spellbinding event, it was!

WEBINAR ON HOW TO GENERATE AND VALIDATE START-UP IDEAS

IEEE Women in Engineering of Madras Section jointly with Sri Sivasubramaniya Nadar College of Engineering IEEE Student Branch organized a webinar on *"How to generate and validate start-up ideas"* on **21 December 2022**. The speaker of the day was **Dr. N. Bhalaji, Associate Professor, Department of Information Technology,** SSN College of Engineering.

He gave an **insight on starting and operating one's own business** for individuals from different stock of life. He delivered **more information about the startups and explained about entrepreneurs**. They should acquire desired knowledge, skills, and competencies that would enable them to become confident entrepreneurs who can create innovative important business ideas. A total of **45 participants** benefitted through this event.

IQAC – External Audit

The external academic audit of IT department towards NAAC was conducted on Friday, 23.09.2022. As part of the NAAC requirement, every year an external academic audit is carried out. Experts Member **Dr N. Sreenath, Professor, Department of Computer Science and Information Technology, Pondicherry Engineering College** carried out the Audit for the Academic Year 2021-22.

Overall Assessment of the Audit:

1. Strength of the Department:
- Good and motivated Faculty
- Good Infrastructure

2. Weaknesses of the Department
- Remedial actions after finding the gaps in PO attainment.
- Feedback of evaluation of student exams
- More Ph.D Supervisors required to improve the research activities.

3. Best practices followed by the Department.
- QP Evaluation
- Fairness in evaluation among different sections
- More theory and practice courses.

4. Overall Report and Recommendations for Improvement:
- Remedial Actions.
- Research Activities.

HiPC 2023 – A peep into the world of high performance computing

The 29th IEEE International Conference on High-Performance Computing, Data, and Analytics (HiPC) was conducted from December 17th to 21st, 2022 in Bangalore.

HiPC is an IEEE flagship conference featuring invited keynote lectures by eminent speakers including the Turing award winner Jack Dongarra. Recognizing the significance of the conference, NSM, CDAC (A Central Government organization) selected 20 faculty members across India and sponsored the registration fee for the workshop and conference. Dr. C. Aravindan, HoD, IT, Dr. P. Vasuki and myself received this sponsorship.

The EduHiPC workshop was conducted on the 17th and 18th Dec. We were introduced to parallel computing and HPC basics, properties, and metrics. Interesting unplug activities to introduce parallel computing for CS1 and CS2 students were demonstrated and the exercises in OpenMP were very useful. This hands-on session gave an experience in rewriting a sequential code to a parallel code through basic directives and clauses.

A few opportunities explored:
- connect with CDAC to conduct value-added courses on HPC
- Our contribution to framing the IEEE TCPP curriculum
- To collaborate on framing exemplars for ML and cybersecurity
- contributions to review papers for such conferences
- Become trainers for openMP workshops

Prof. P.J. Narayana, IIIT Hyderabad, delivered the keynote session and discussed NeRF and LLM. He listed the challenges of teaching parallel computing in data structures. The second talk was delivered by Dr. Karthikeyan, Intel, on how do we bring exascale computing to India. The possible solutions discussed were through curriculum and performance optimization. He also discussed a case study on the optimization of matrix multiplication. The paper presentation sessions helped us to understand the fundamental workflow for developing low-cost clusters. Finally, we had a panel discussion on ways to do PDC/ HPC in India, how to introduce it in 1st or 2nd Yr of Computer and IT students, and how to change computing education in India.

The HiPC conference started with an enthusiastic keynote talk by Dr. Paolo Lenne. He introduced concepts " beyond instruction-level parallelism". It was followed by technical sessions where most papers were based on enhancing the performance of GPUs through parallelism. The BoF on AI for sustainable agriculture was very interesting. We got the opportunity to meet experts from AIFarms and EarthSense. They spoke about autonomous farming - using IoT and robots. (AIFARMS – Artificial Intelligence for Future Agricultural Resilience, Management, and Sustainability Institute (illinois.edu) These sessions were an eye-opener for the concepts of digital twins in agri and flow analysis over point clouds. We also interacted with industrial people (like AUK, Intel oneAPI) in their exhibits**.**

The third keynote session was on the optimization of compilers by Prof. Sadayappan. He discussed on the consequences of slowing Moores systems and ways to enhance the performance of such systems. Intel conducted a tutorial on SYCL concepts for heterogeneous computing: understood the anatomy of SYCL program, got introduced to unified shared memory (USM), SYCL thread hierarchy, and mapping. Followed by that we had a panel discussion on Indo-US collaboration helping to explore the trending domains and applications.

The highlight of the conference was the keynote by Prof. Jack Dongarra, Turing award winner. He shared a lot of his experiences through the evolution of HPC, highlighted the present global supercomputing advancements, and concluded with a future scope of using these super machines appropriately.

The conference ended with a Banquet cultural program (bansuri performance) and an exotic dinner.

Reported by: Dr. S. Karthika

APPRECIATIONS!

Dr. C. Aravindan, Prof. & Head, has been nominated as Member, Academic Expert, Academic Council of Mepco Schlenk Engineering College (Autonomous), Sivakasi.

Dr. T. Sree Sharmila, ASP, IT has been selected as a Chair of IEEE Women in Engineering, Madras Section on 29.09.2022.

FELICITATION ON Ph. D COMPLETION
-Dr. Sivamurugan

Title: "Some investigations on eye disease classification using deep learning tehcniques"

There are different eye diseases namely diabetic retinopathy, diabetic macular edema, Early Age-related macular degeneration, Late Age-related macular degeneration etc. It is identified that Diabetic Retinopathy is the major cause for eye blindness among the diabetes if it is not detected at an earlier stage. The diabetic retinopathy is characterized by the different symptoms such as microaneurysms, hemorrhages, exudates etc in the retina image of the human eye. There are 4 different stages or severity levels of diabetic retinopathy. The first level of diabetic retinopathy is characterized by the presence one to five microaneurysms. It is called as Mild diabetic retinopathy. The diabetic retinopathy advances from the mild stage to the advanced proliferative stage if it is recognized at earlier time. **The loss of blindness can be avoided by proper screening and appropriate treatment at correct time.** Retinal fundus images are used for analysis to predict the diabetic retinopathy. If humans are used for analysis, then it becomes really time-consuming and may lead to error in the decision. Therefore, automatic computer-aided diagnosis and classification of diabetic retinopathy are recommended. This work uses different deep learning models to extract features, shallow neural network to create the trained model detect using extracted features and classify the different severity levels of diabetic retinopathy by using trained models.

Best Teacher Awards

2021 - 2022

Dr. S. Chithra

Dr. S. Karthika

PLACEMENTS

Placement Trend - Batch of 2022

60

40

20

0

Single   Dual   Three   Four/more
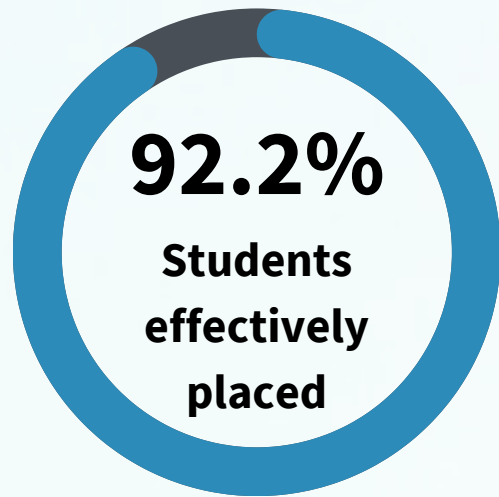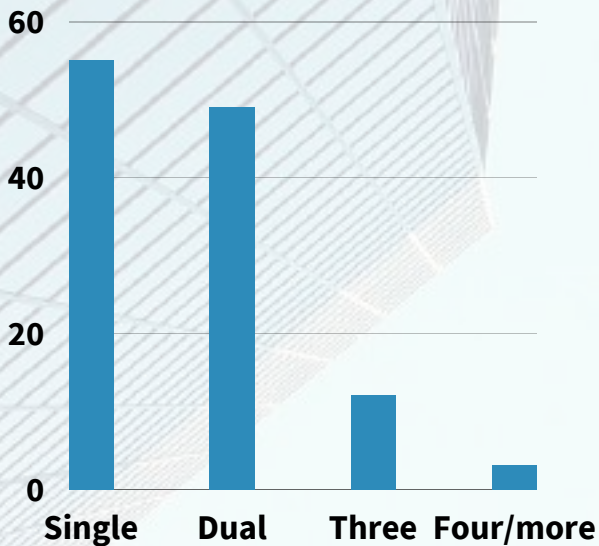
**Number of placement offers
received by students**

92.2%
Students
effectively
placed

■ **Total offers**

Marquee

Super dream

Dream

Regular

Core

0   25   50   75
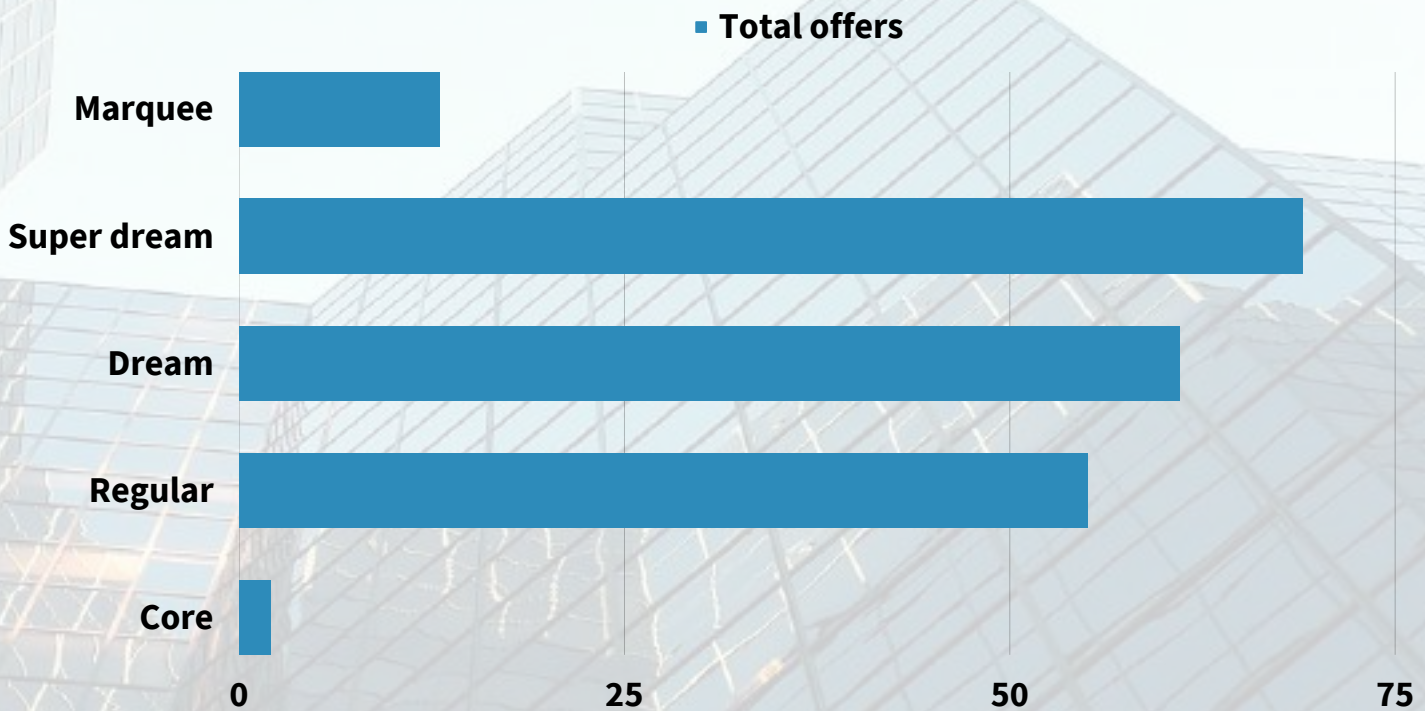
Average gross income per annum = 9.00 LPA

Hiring Companies

Marquee offers	Amazon (3), Avalara (1), ChargeBee (2), Google (2), ITK Education (1), PayPal (3), Workato (1)
Super Dream offers	Accolite Software (3), Barclays (6), Citibank (9), CommScope (3), CredAvenue (1), Fidelity (5), Lynk Logistics (4), Mr. Cooper (4), NAVIS (2), Nielsen (2), Ola Electric Mobility (1), Optum (20), Samsung R&D (1), Sapient (3), Tiger Analytics (1), Toyota (1)
Dream offers	Altimetrik (1), BA Continuum (6), CaratLane (2), Cognizant (4), Deloitte (11), HDFC Bank (1), IBM (9), Infosys (2), LatentView Analytics (1), LTI (1), Mphasis (1), Oracle (5), TCS (2), Verizon (6), Virtusa (1)
Regular placements	Cognizant (22), EY (7), HCL (1), Infosys (5), LTI (1), TCS (8), TATA ELXSI (1)
Core placements	ComCast (2)

* Numbers in brackets indicate number of offers received by students of IT Department and not the total number of offers made by the company to our college

"Dream big, stay positive, work hard and enjoy the journey"

Internships

Popular companies in which our students bag internships

1. Fidelity Investments
2. Citibank
3. PayPal
4. Equinix
5. Goldman Sachs
6. Trilogy Solutions
7. MotorQ
8. Natwest
9. Amazon
10. KLA Tencor
11. ComCast

Popular intern roles

SDE Developer
Full Stack Developer
Machine Learning Engineer
Data Analyst
Technology Analyst
Business Analyst

Marquee Companies

How to ace your interview?

Although the interview process can be daunting, preparation is the key to building your confidence and proving that you're the best candidate. Learn how to ace an interview with steps that will help you stand out and succeed:

Before the interview

1. Research the company
2. Reread the job description
3. Prepare for the typical job interview questions
4. Get your backstory right
5. Prepare smart questions in advance
6. Is your interview remote? Check your equipment and find a quiet place
7. Practice your job interview

The day of the interview

8. Be on time
9. Bring resumes, reference letters and your notepad
10. Dress well
11. Relax, you came prepared

During the interview

12. Smile and be nice
13. Be honest
14. Show interest and passion
15. Demonstrate your expertise
16. Take notes

After the interview

17. Follow up to say thank you
18. Deal with any take-home assignment in a timely manner
19. Follow up on eventual questions that were asked during the interview

Placement experiences

MotorQ is a company that provides customers with business intelligence through its cloud based and connected car data and analytics platform. I interviewed at MotorQ initially for the role of SDE Intern during 3rd year. The first round was a DSA test on HackerEarth and I was shortlisted for further rounds. I had three interviews in total - a DSA round, a system design round and finally a round with the CTO.

The interviews were pretty tough, but I enjoyed the challenge. The System Design round was super interesting for me because I had to think quickly and come up with efficient solutions with the right design trade offs. The last round was a culture fit round with the CTO where we had a casual discussion. **In the end, I converted the internship offer into a PPO (Pre placement offer)**

Overall, I had a great impression of Motorq. The team was cool and supportive, and I could tell that they really valued problem-solving and critical thinking. Now I'm finally placed in MotorQ.**
.

Sanjay Ram
Final year

Placement experiences

Avalara is a tax compliance company that develops automated cloud-based tax compliance software with a primary focus on Sales tax. I was offered an internship of 6 months with an SDE role. During the internship, I got the opportunity to learn a lot about the company. **I work under a Developer and mainly focused on Python programming language and DevOps practices.**

The placement procedure for the company had 3 rounds and took place for 2 days. On the first day, there was the Pre-placement talk followed by the first round that happened in our campus. The first round was the coding round which consisted of 3 questions and had to be solved on the Hackerrank platform. The questions were of medium-level difficulty. Out of the students who appeared, 12 students got shortlisted for the second round. On the following day, the second and third rounds took place. The second round was the technical interview which happened in the virtual mode for one hour. I was asked to introduce myself and had to solve a few coding questions in the programming language of my choice. I was also asked about a few DevOps principles and DBMS concepts. Four students got shortlisted for this round and then happened the third round which was an in-person technical-cum-HR interview. It also took place for an hour and the questions were mostly application-oriented in this round. **Apart from Avalara, I also got job offers from Optum and TCS.**

On the technical side, having a good hold on at least one of the programming languages would be very useful. In addition to it, sharpening your logical and analytical skills are very valuable in clearing the coding rounds. Rejections are very common and it is really necessary to stay positive during those times. Every rejection adds experience and the experiences will play a pivotal role in landing a job in a good company. On a final note, your state of mind and the calm and composure that you maintain on the day of the interview is of utmost importance to crack the interview. Try and do your best for all the companies that you attend.

Devi Anusha N

Final year

NPTEL

ACHEIVEMENTS

Top 2 percentile scorers

Final Year
- Lochan N
- Lokesh Sharma M (4th year)
- Mohana R (4th year)
- Sagar Seth (4th year)

Top 5 percentile scorers

Final year
- B Dinesh
- Meganathan Vijayakumar
- Nabeel Hussain M N
- R Paarkeshvaran
- Ramapavith Kopparapu
- Arun Narasimhan
- Shankararaman
- Nivas Muthu M G
- Ujjwaleshwar Srikanth

Third year
- Prasanna R
- Umarani K

Congratulations to all the top scorers!

DEPARTMENT TOPPERS

BATCH: 2018 - 2022

AADITYA B KAILASH

HARRISON VIJAY J

SRIVIDHYA N

JAJULA ABHAYA CHETNA

VISHNU PRAKASH PRASANNAN

HARSHINI S

KOUSHIKA PADMANABAN
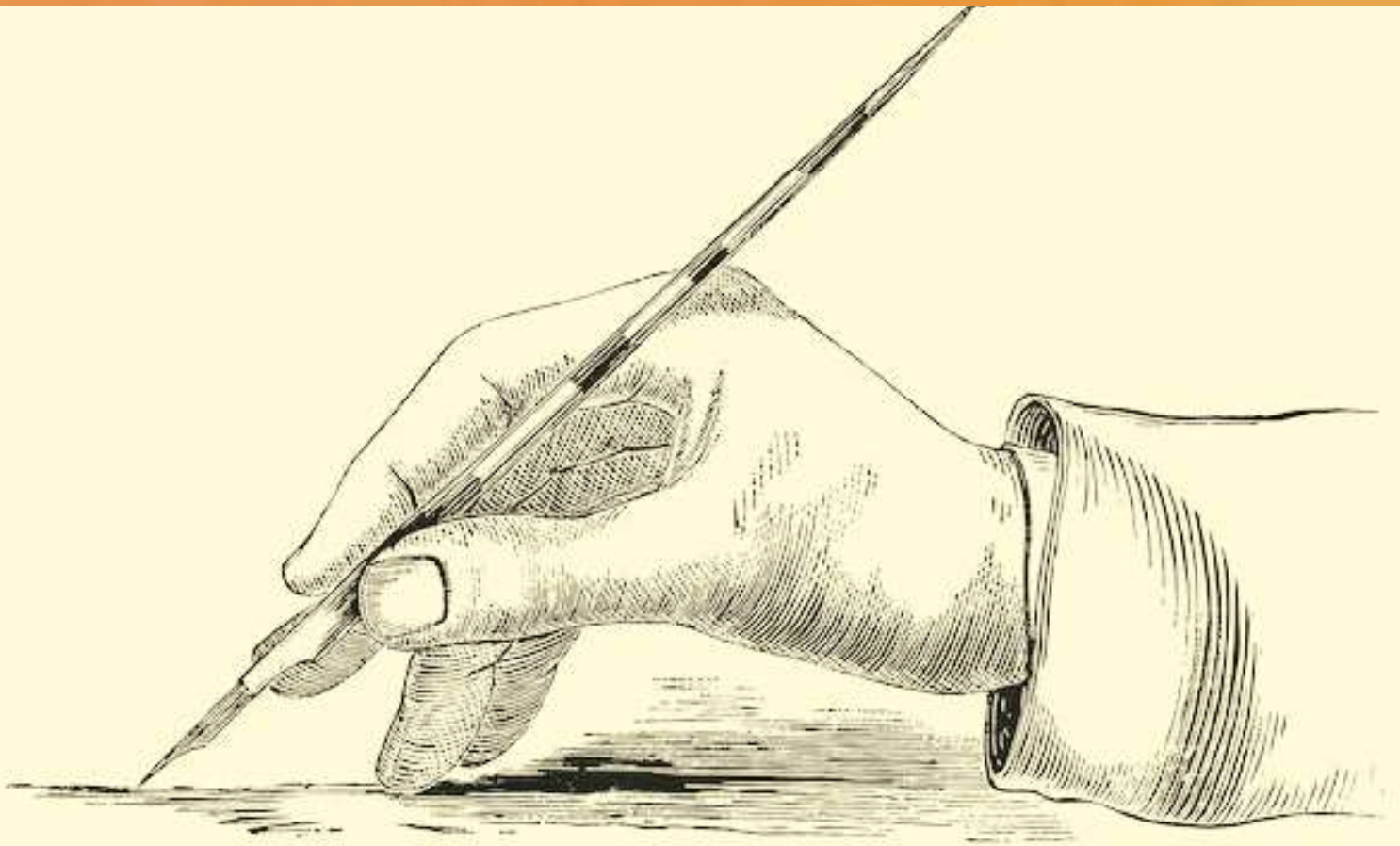
SWATHIKA B

SHRUTHI ARUN

HAMSINI R S

LAKSHANYA P

ALUMNI CHANNEL

Rajini PP - The Superstar programming language

A programming language dedicated to Superstar Rajinikanth!! For 90s kids this is something that is really fascinating. There are quite a lot of 2k kids who also follow Rajinikanth. This programming language has been created for a limited set of audience (especially south indian/tamil audience).

The syntax and keywords used in this programming language is completely based on the famous rajini dialogues. It is one of a kind of esolang. What is more amazing is the fact that Rajinipp has been created with python completely. Though it is still in the nascent stages of development, **it is available for a pip install (pip install rajinipp).** To check if the package has been installed successfully, we can use the rajinipp version command in the command prompt.

Basic syntax of rajinipp starts with the famous dialog : LAKSHMI START – this is a famous dialogue where Rajinikanth tries to start his car. This command marks the starting line of the programming language. MAGIZHCHI (another dialogue from Kabali movie) marks the end statement. DOT (from Endhiran) is the keyword to print out texts to the console.

Rajinipp is highly rich in feature and supports math operations, unary, binary operations, variable declaration, for loops, if .. else (decision) statements. The for loop goes like: NAA 1 THADAVA SONNA range THADAVA SONNA MADHRI { } and KATHAM KATHAM marks the end of the looping statement.

What is more interesting is the fact that this can be embedded inside a normal python script by importing the below statement: from rajinipp.runner import RPPRunner. Though this is only in an experimental state, it is always interesting to learn something connecting to the roots of what we have gone through in our childhood. This idea can give rise to new programming languages (something like a wrapper) which may be easier for the student community to relate to.

Dr. K. B. Sundharakumar
(2008 – 2012 Batch)
Assistant Professor
Department of CSE,
Shiv Nadar University, Chennai

அவள் துணைக்கு !

டங்...டங்...டங்...டங்...டங்...டங்...
மணி ஆறாகிவிட்டதா ?!
நிச்சயம் போகத்தான் வேண்டுமா ?!

விடைபெற முடிவு செய்து,
இமயமலையின் மடியில் சரிந்தேன்,
இமைகளோ மூடவில்லை.

சாளரத்தின் பளிங்குக் கண்ணாடி,
தன்னில் என்னெழில் காட்டியது.
சுடரோ சற்றும் குறையவில்லை.

பொன்னிறத்தில் மின்னினேன்
தான்,
ஆனாலும் போக மனமில்லை.

பால்கனிகளில் நடைபயின்றேன்,
கால்களும் களைக்கவில்லை.

அங்கே அவள்...
ஜன்னல் திரையை விலக்கினாள்.

அவள் கருவிழியில் எனைக்
கண்டேன்.
அதன் ஈரத்தில் மெல்ல நனைந்தேன்.

அந்த கண்ணீரை ஆவியாக்க,
முயன்று தோற்றேன்.

ஆர்வம் முற்றி,
அந்த மழையில் கரைந்து
அவள் மனதுள் இறங்கினேன்.

அதில்
"போகாதே" என்று எழுதியிருந்தது.

ஈரம் இருந்தால் குளிரும் எனத்
தெரியும்.
ஆனால் இவ்வளவா ?!

ஓடினேன் !
அடிவானம் தேடி !
நிலவை அனுப்பி வைக்க !

அவள் துணைக்கு !

Soumya Ammaiappan
(2012 - 2016 Batch)
Deputy Commissioner, GST Policy Wing,
Ministry of Finance, Delhi

My artworks

Keertthana KN

(2015 - 2019 Batch)

Thoughtworks

Autonomous Vehicles - Brief Overview

Autonomous cars, also known as self-driving cars or driverless cars, are vehicles equipped with technology to operate without human input. They use sensors such as cameras, lidar, and radar, along with artificial intelligence algorithms, to make decisions and navigate roads.

The goal of autonomous cars is to increase safety and reduce traffic congestion. However, the technology is still in its early stages and there are many technical, regulatory, and ethical challenges that must be overcome before widespread adoption can occur.

The levels of autonomy in self-driving cars are defined by the Society of Automotive Engineers (SAE) International. The SAE defines six levels of autonomy as stated below:

Level 0: No Automation - The driver is in full control of the vehicle at all times.

Level 1: Driver Assistance - The vehicle can assist with specific functions, such as steering or acceleration, but the driver must remain in control.

Level 2: Partial AutomatioThe vehicle can control both steering and acceleration/deceleration at the same time, but the driver must be ready to take over control at any time.

Level 3: Conditional Automation - The vehicle can make decisions on its own in certain conditions, but the driver must be available to take control if necessary.

Level 4: High Automation - The vehicle can drive itself in most conditions, but a human driver may be required in certain situations.

Level 5: Full Automation - The vehicle can operate without any human input and is capable of handling all driving tasks in all conditions.

There is a lot of research being conducted on autonomous vehicles, ranging from the development of more advanced algorithms for decision making and object detection, to improving the reliability and safety of the hardware components.
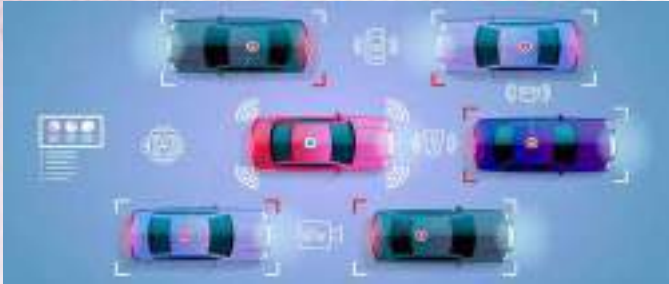

Some research topics include:

1. End-to-end deep learning for autonomous driving: Research is being conducted on using deep learning models to handle the entire driving task, from perception to control.

2. Sensor fusion and environment perception: A lot of focus is being placed on developing methods for effectively combining data from various sensors, such as cameras, lidar, and radar, to create a comprehensive understanding of the driving environment.

3. Safe and robust control: Researchers are working on developing control systems that can handle unexpected events, such as a sudden stop by a pedestrian or other vehicles breaking the rules of the road..

4. Human-centered design: There is also a growing focus on how autonomous vehicles can be designed to better meet the needs and expectations of human users.

5. Simulation and testing: With the increasing complexity of autonomous systems, simulation and testing are becoming increasingly important for validating and verifying the performance of these systems.

The goal of fully autonomous vehicles is still very distant, but with active research being conducted in this area by both academia and industry, and new ideas such as incorporating IoT and autonomous vehicles, one can be optimistic for the future of self-driving cars.

Achyuta Satish
(2016 – 2020 Batch)

STUDENT ARTICLES
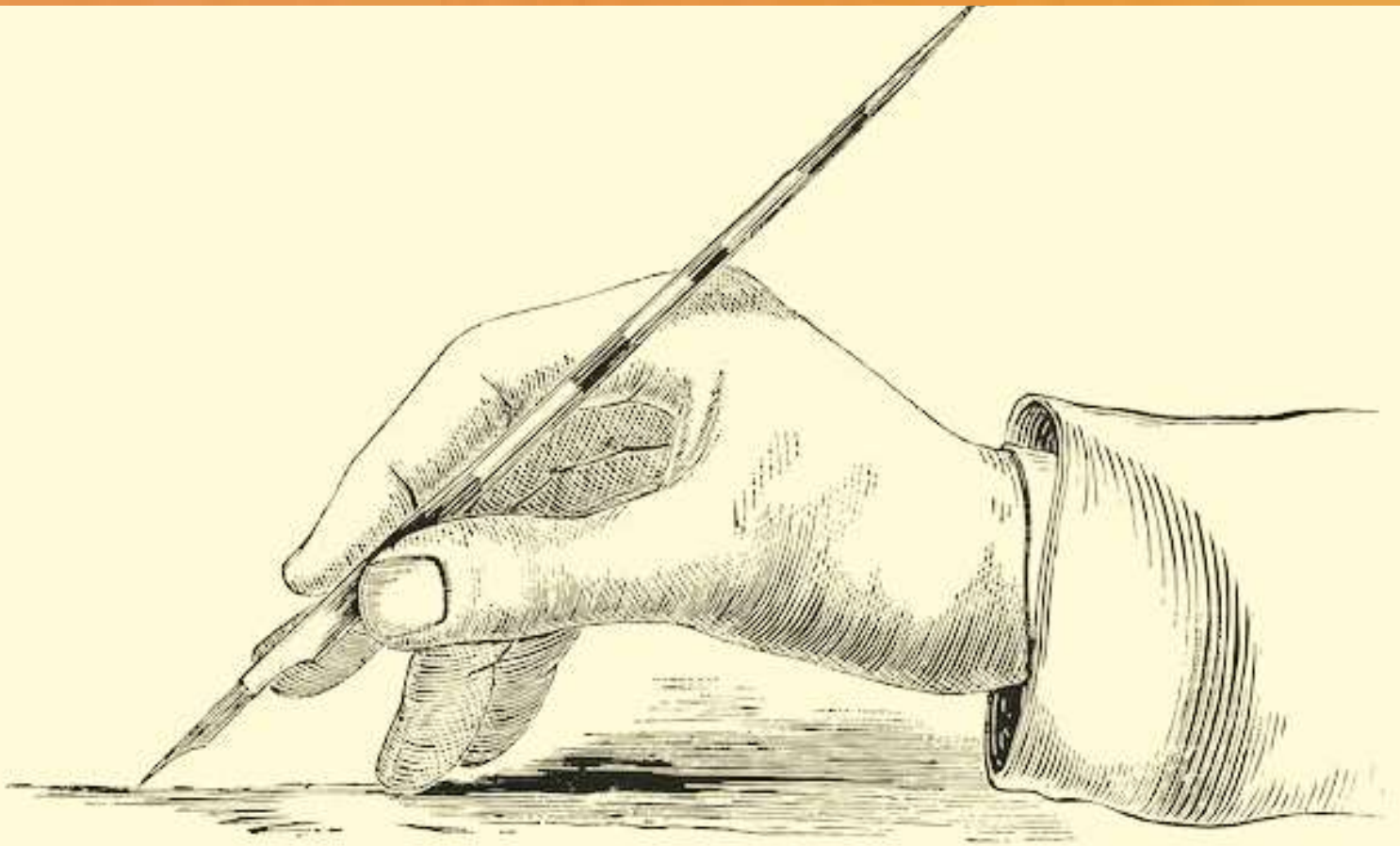
India's first woman doctor – DR. Muthulakshmi Reddy

Dr Muthulakshmi Reddy was an **eminent medical practitioner, social reformer and legislator**. She is also the **founder of the Adyar Cancer Institute**. She was born on the 30th of July 1886, in the princely state of Pudukkottai, now a town in Tamil Nadu. She was the daughter of Devadasi Chandrammal and Narayanaswamy. Her father was ostracized from his family because of his marriage to a Devadasi. She developed a close relationship with the maternal side of her family. This closeness made her very perceptive of the Devadasi community and their issues.

She fought against her mother's decision to marry her off at puberty and went on to become **the first woman from Pudukkottai to be admitted to the Maharaja's High School**—she was given admission by the Maharaja himself, despite severe resistance from the principle. The Maharaja's High School was a school solely for boys and many parents threatened to remove their children from the school, should she enroll there. After she completed her under-graduation from her hometown, she was successfully admitted to the Madras Medical College—**she was the first female student at the college's Department of Surgery**. It was during these years that **she formed a close friendship with Sarojini Naidu and Annie Besant**, both of whom influenced her philosophy and future work. She went on to pursue a higher education in England.

In 1893, an appeal was put forth by the Madras Hindu Reform Association to put an end to the performance of Devadasis at public and private functions. In 1913, a bill was proposed to prevent the dedication of girls under 16 years of age; however, the bill did not gain any traction. A resolution was made in the Council of State to prohibit the dedication of girls in 1927 by V.R. Puntulu. Dr. Reddy gave up her practice of medicine after being nominated to the Madras Presidency Council, in the same year that the resolution was made. **She was also chosen as the first woman Deputy President of the Council**. In support of the resolution, she met with and interviewed several hundred Devadasis across the Madras Presidency.

The resolution became dormant after Dr. Reddy resigned from the Council in 1930, in protest against the arrest of Mahatma Gandhi after the Salt March. The Madras Devdasi (Prevention of Dedication) Bill was eventually passed by the Madras Legislative Assembly in December 1947.

In the midst of the Devdasi debate, Dr. Reddy was approached by 2 girls running away from being dedicated as Devdasis. She housed them while simultaneously attempting to put them into hostels and schools, however, no one would take them. These girls led her to establish the Avvai Home hostel and school in Chennai.

She passed a bill for the suppression of brothels and trafficking of women and children. Her efforts led to the establishment of a home for those rescued from brothels. She set up a scholarship for non-dominant caste girls and opened hostels for Muslim girls. Dr. Reddy also recommended to the government to raise the age of marriage to 21 for boys and 16 for girls.As part of her work with the Hartog Education Committee, she travelled extensively across the country to study the progress of women's education. She was the only woman member of the committee.

Dr. Muthulakshmi Reddy was also responsible for several other social reforms. **She passed a resolution to set up separate hospitals for women and children and the government also accepted her proposal to open up a children's section in maternity hospitals.** She initiated measures for the betterment of medical facilities for slum dwellers and was actively involved in the construction of women's toilets.

When she saw her younger sister die of cancer, Muthulakshmi decided to specialise in cancer treatment. She declared her intent to start a hospital for cancer patients in 1935. **The foundation stone for the Adyar Cancer Institute was laid in 1952 and the hospital started functioning on the 18th of June, 1954.** The Adyar Cancer Institute is currently a world-renowned institution and offers treatment to approximately 80,000 cancer patients a year.

Dr. Reddy has several firsts under her belt, other than the ones already mentioned—**she was the first woman House Surgeon in the Government Maternity and Ophthalmic Hospital, the first woman legislator in British India, the first Chairperson of the State Social Welfare Advisory Board and the first Alderwoman of the Madras Corporation Avvai Home. She was awarded the Padma Bhushan in 1956 by the Government of India** in recognition of her service. It cannot be denied that her work changed many lives and paved the way for the appointment of Indian women in positions of authority. Contribution of Dr. Muthu Lakshmi Reddy to the upliftment of women and children especially the under privileged was duly recognized in 1947 with the raising of the first National flag at Redfort which carried her named.

Personal Connect:

I've looked up to Dr.Muthulakshmi Reddy since my school days, so much so, that I used to play her character in many school events. Her acts of social kindness and braveness never cease to amaze and inspire me.

I feel immensely proud to be sharing a name with such a brave soul.

Muthulakshmi T

2nd year

Is ChatGPT a boon or a bane?

Nowadays, the headlines have been throbbing with news about **ChatGPT**. But do all of us know what is ChatGPT? ChatGPT is a **large language model** developed by **OpenAI**. It is a variant of the **Generative Pre-trained Transformer model** and is fine-tuned for conversational and language understanding tasks, making it easy for developers to **build conversational AI applications** without having to train a model from scratch. In addition to its ability to generate human-like text, ChatGPT also has the ability to perform other **NLP tasks** such as **named entity recognition**, **part-of-speech tagging**, and **text summarization**. This makes it a versatile tool for building conversational AI applications.

Recently, ChatGPT had cleared **the MBA Exam** and came in as a shocker to many professors. There were five exam questions, and no adjustments were made to enable the bot to understand better. Everything was prepared for an human environment.

There were different concepts needed to succeed in the exam, like **process analysis**, **inventory turns**, **complex process analysis**, and **queueing analysis**. Though it was able to answer all the seven questions, it faced a few difficulties in the concepts mentioned. The professor who was assigned to grade ChatGPT's performance was very much impressed with its remarkable skills in handling problems that are extensively used in the training and testing of MBA students. In addition to acting as an advantage for students, it is beneficial to professors and authors as well. From this, it is evident that apart from its **problem-solving skills**, ChatGPT is also able to **generate a couple of automated questions**.
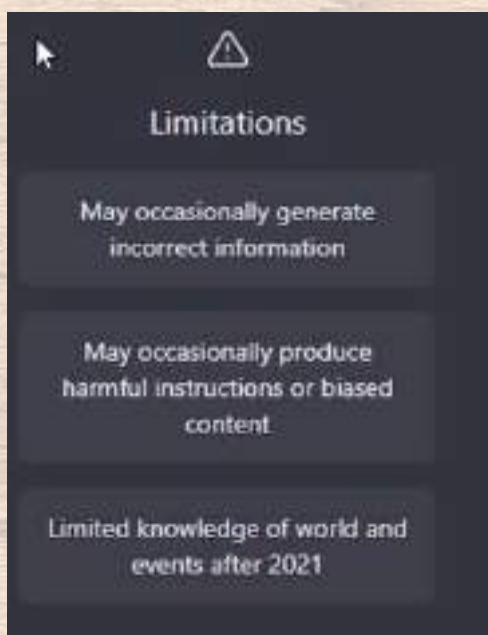
Being the most talked about bot in recent times, its large number of parameters and amount of training data has given it its ability to understand and respond to a wide range of conversational prompts and questions in a human like manner.

It trained in about **570GB of text data** and for **4 months on a single GPU**, with the model size being about **175 billion parameters**.

Though it acts as a powerful tool for natural language processing and is well suited for AI applications, which is our future, ChatGPT is considered as **"the wolf at the door"** because of the numerous disadvantages offered. Several jobs in sectors such as journalism, higher education, graphic designing are seen to be at a risk as they become vulnerable to the **ever-evolving technology**. As far as higher education is concerned, educators are seeing their roles transformed nearly overnight. They believe that now it is important for them to adapt to new teaching and testing methods in order to keep up with this increasingly talented bot, that the ability to complete a student's coursework at master's level.

In **finance**, though it will impact the trading aspect, tasks like **Excel modelling** which is usually given to freshers who have just graduated, could now be done at a faster rate using ChatGPT. However, crucial financial decisions will always be taken by humans and they can never be replaced with AI. Additionally, even website designers and engineers who are responsible for coding have their jobs at stake because this AI can draft the code to the user's request and parameters. In my opinion, I would like to say that in the next 3-5 years, these software engineers will not be broadly needed.

Along with the real-world implications. ChatGPT has several limitations. **It cannot access the internet.** It has the tendency to give wrong information.

Limitations

May occasionally generate incorrect information

May occasionally produce harmful instructions or biased content

Limited knowledge of world and events after 2021

As **Elon Musk** reacted, **ChatGPT is very scarily good and it is sure that we are nearing to a future which is going to be ruled by the dangerously strong AI.**

Madhumitha Chandrasekaran

2nd year

Metaverse

The metaverse is a term that has been used to describe the **concept of a shared virtual space** that is **created by the convergence of virtually enhanced physical reality and physically persistent virtual space**. This includes the sum of all virtual worlds, augmented reality, and the internet. The word "metaverse" is a portmanteau of the prefix "meta" (meaning beyond) and "universe," and it is often used to describe a future iteration of the internet that is made up of persistent, shared, cooperative, and immersive spaces.

The concept of a metaverse has been around for decades, and it can be traced back to **science fiction literature** and **virtual reality gaming**. However, in recent years, the concept has gained renewed interest due to advancements in technology and the increasing prevalence of virtual and augmented reality.

One of the **key drivers** of the metaverse is **the blurring of the lines between the physical and digital world**. As technology continues to advance, it becomes increasingly possible to bring digital content into the physical world and vice versa. This includes the use of virtual and augmented reality, which can be used to create immersive experiences that blend the real and virtual worlds.

There are already a number of companies and organizations working on building the metaverse. One of the most well-known is the **Metaverse Roadmap**, which is a collaboration between researchers, scientists, and experts from a variety of fields that is focused on defining and building the metaverse. The Metaverse Roadmap has outlined a number of key components that are necessary for the development of the metaverse, including:

- Virtual reality technologies that enable users to fully immerse themselves in virtual environments
- Augmented reality technologies that blend the virtual and physical worlds
- Persistent virtual spaces that allow users to return to the same location in the virtual world multiple times
- Social and communication tools that allow users to interact with each other in the virtual world

Applications of the Metaverse

The metaverse **has the potential to revolutionize a wide range of industries**, including entertainment, education, retail, and more.

In the **entertainment industry**, the metaverse could be used to create immersive, interactive experiences that allow users to feel as if they are truly part of the story. This could include **virtual reality gaming**, where players can fully immerse themselves in a virtual world, or virtual concerts and events, where attendees can interact with performers and each other in a virtual space. For example, a user could enter a virtual world **where they play the role of a character in a movie or video game**. **They could interact with other characters, objects, and the environment in real-time**, creating a truly immersive experience.

In **education**, the metaverse could be used to create **virtual classrooms and simulations** that allow students to learn in a more interactive and engaging way.

This could include **virtual field trips** to museums, historical sites, and other locations that might not be accessible in the physical world. It could also include simulations of complex scientific concepts or historical events that allow students to fully understand

and experience them in a virtual environment. For example, a student could enter a virtual world where they can explore historical events or scientific concepts in a **more hands-on way**. They could also **collaborate with other students in real-time**, creating a more interactive learning experience.

In **retail**, the metaverse could be used to create **virtual stores and shopping experiences** that allow users to browse and purchase products in a **virtual environment**. This could include **virtual fitting rooms**, where customers can try on clothes and see how they look before purchasing them. This could be especially **useful for people who live in remote areas or have disabilities** that make it difficult for them to shop in physical stores. It could also include **virtual showrooms**, where customers can view and interact with products in a realistic and immersive way.

The Metaverse and Social Interaction

There are also **social and cultural implications** of the metaverse. As more and more people spend time in virtual spaces, it is possible that these spaces could become just as important as the physical world. This could lead to the **development of virtual communities and cultures** that are distinct from those in the physical world.

For example, in the physical world, people often meet and interact with others through shared interests or activities. The same could be true in the metaverse, where people could come together to participate in virtual events or activities that they are interested in. This could lead to the **formation of virtual communities based on shared interests or goals**. Even, **virtual reality gaming communities** could become just as important to players as **real-world communities**, and **virtual social media platforms** could become the primary way that people interact with each other.

The Metaverse and Privacy

While the metaverse has the potential to revolutionize a wide range of industries and change the way we interact with the world, **there are also concerns about privacy**. As more and more personal information is shared in virtual spaces, **there is the potential for this information to be accessed or misused**. It is important for companies and individuals to be aware of these privacy concerns and take steps to protect personal information.

Conclusion

Overall, the metaverse is **an exciting and rapidly evolving concept** that has the potential to revolutionize a wide range of industries and change the way we interact with the world. While there are concerns about privacy, the potential benefits of the metaverse are numerous. As technology continues to advance, it will be interesting to see how the metaverse develops and how it will be used in the future.

Adharsh Gurudev

2nd year

Creating high-precision AI-generated content: The future of writing

Artificial Intelligence (AI) is becoming increasingly capable of producing high-quality written content, thanks to advances in natural language processing (NLP) and machine learning (ML) techniques. One of the main advantages of AI-powered writing is the ability to generate large amounts of content quickly and efficiently, with a high degree of precision and accuracy.

One key factor in achieving high precision with AI-powered writing is the quality and diversity of the training data. The more diverse and representative the training data is, the better the AI system will be able to understand and produce human-like text. This is particularly important when it comes to understanding idiomatic expressions, colloquialisms, and cultural references, as these can be difficult for AI systems to grasp without sufficient training data.

Another important factor in achieving high precision with AI-powered writing is the use of advanced NLP techniques. One such technique is the use of pre-trained language models, such as GPT-3, which have been trained on massive amounts of data and can generate highly accurate and coherent text. Another technique is the use of fine-tuning, where a pre-trained language model is further trained on a specific task or dataset, allowing it to produce text that is even more accurate and relevant to the task at hand.

AI systems can also be trained to understand the context of the text and to generate text that is appropriate for the intended audience and purpose. For example, a system trained to write news articles will be able to generate text that is informative, objective, and unbiased, while a system trained to write fiction will be able to generate text that is engaging and emotionally resonant.

Moreover, AI-powered writing systems can be trained to detect and correct errors in the text, such as grammar and spelling mistakes, and to improve sentence structure and vocabulary. This can be achieved by using machine learning algorithms that are able to analyse large amounts of data and to identify patterns and trends in the language used by humans. However, it's important to note that AI-powered writing systems are not perfect and even with the most advanced algorithms and techniques, errors and biases may still occur. Therefore, it's important to have human editors to review the texts generated by AI systems, to ensure the content is of high quality and free of errors

In addition to using advanced NLP techniques and diverse training data, there are a few other strategies that can be used to improve the precision of AI-generated content:

1. Use of structured data: AI systems can be trained to understand and generate text based on structured data, such as tables, charts and databases. This can be particularly useful for tasks such as data-driven journalism, where the AI system can automatically generate articles based on data sources.

2. Incorporation of human feedback: AI systems can be trained to learn from human feedback, such as corrections and revisions, and to improve the quality of the text over time.

3. Integration with other technologies: AI-powered writing systems can be integrated with other technologies such as computer vision and speech recognition, to enable the AI system to understand and generate text based on images, videos and audio.

4. Limiting the scope of AI: AI systems can be trained to generate text for a specific domain or topic which can help to limit the scope of the AI and improve its precision.

5. Creating specialized AI models: AI systems can be trained to generate text for specific genre, such as news, poetry, and novels, which can increase the precision of the AI-generated content.

It's important to note that while AI-powered writing systems are becoming increasingly precise, they are not yet at the point where they can completely replace human writers. However, by using these strategies and techniques, AI systems can be trained to produce high-quality, human-like text that can be used to augment human writing and to automate tasks such as content generation and editing.

In conclusion, AI-powered writing has the potential to revolutionize the way we produce written content, providing high-quality, human-like text at scale and with high precision. By leveraging advances in NLP and ML, and by using large and diverse training data, AI systems can be trained to understand and produce text that is accurate, appropriate and engaging for the intended audience and purpose. However, it's important to keep in mind that AI technology is still evolving, and human oversight and editing is crucial to ensure the quality of the text produced.


Mitul Krishna B

2nd year

The Doom Virus !

We are all familiar with viruses. We now know that biological viruses can turn the world upside down, make all of us stand helpless and clueless and hence, we are creating awareness and are trying and doing our best to tackle such viruses in the upcoming days. But how aware are we about the viruses that affect our computers and not us! They are deadly too. **On 26th January 2004, at around 13:00 UK time, the world of computer malware changed forever. People around the globe started getting emails with unusual subject lines.** They appeared to be errors of some sort suggesting the user to open and see the message. This laid the foundation of a botnet that resulted in billions of damage and the this even took for the Google's search engine for almost a day. What was the cause behind this? So, yeah, Some people call it MyDoom - a virus. Some people call it a worm. Others just call it the Doom Virus.

MyDoom just like any other virus is dangerous and serious. This tiny bit of code spreads from one computer to another via email attachments. If you get these messages and open their files, the program sits on your computer. **The message "I'm just doing my job, nothing personal, sorry." popped on every time people checked their inboxes.** It was fast, effective and expensive.

There were actually two variants of Mydoom namely, Mydoom.A and Mydoom.B.The two were similar, except for that the A-variant was focused on SCO's websites, whereas the B-variant also attacked Microsoft and the popular antivirus websites of the time.
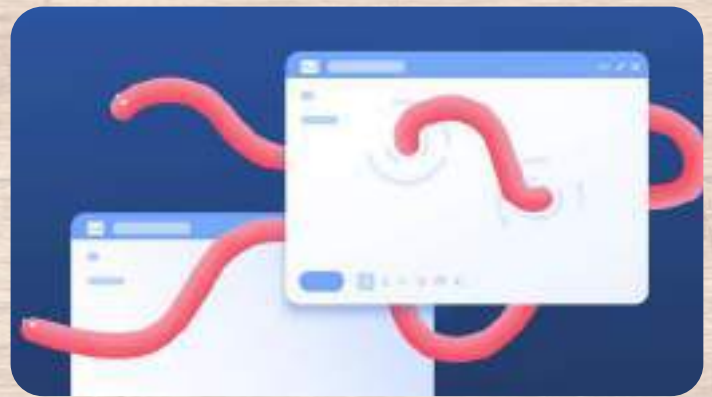
The first version of the worm used infected computers to bombard SCO Group with homepage requests. The company couldn't handle that kind of traffic, and the site crashed. After an hour of constant attack, the company changed website addresses altogether. The second version, infected the computers bombarding Microsoft's website and prevented the people fom cleaning up their computers, it blocked over 65 antivirus websites.As soon as the attachment is opened the Doom virus could spread all over the windows environment. The code working deep within the Windows environment allowed the worm to spread. The code digs into contacts stored in the computer. For every address it finds a new worm as an email attachment is born. The attackers leave a back door open, just in case they want to enter again.

Nothing lasts forever. MyDoom has certain coding errors that prevented it from spreading as fast as the initial versions. The downfall of the virus began. On 12th February 2004, Mydoom.A stopped spreading and on 1st March 2004, Mydoom.B stopped spreading.However, any computer which had been infected was still infected, meaning any backdoors created by this malware were still open.

As time went on following the first outbreak of the Mydoom virus, several more attacks took place for all of which the original MyDoom virus laid the foundation.In July 2004, a variant targeted Google, Lycos, and AltaVista – and it was largely successful..Additional variants labelled Mydoom C, F, and G/H were also discovered which were coded to specifically target Symantec, the well-known antivirus tech company.In September 2004, further variants were identified and labelled Mydoom U, V, W, and X.

Exactly a decade and a half on from that day,by 2019 ,MyDoom was still active and according to analysis by Unit 42 – the research division of cybersecurity company Palo Alto Networks – one percent of all emails containing malware sent during 2019 have been MyDoom emails.It might not sound like much, but it's a large figure considering the sheer number of malicious phishing emails distributed around the globe – and it's testament to the staying power and self-sufficiency of MyDoom that it remains active to this day.

The virus seems to be calmed down for the past three years but MyDoom could work aggressively to find other email addresses on the victim's system to send itself on to. This worm behaviour means that, the malware is self-sufficient and could continue to do this forever, as long as people open the email attachments.While relatively simple attacks, worms are still a danger to internet users. Both WannaCry and NotPetya –two of the most destructive cyber attacks in recent years – were powered by worm-like capabilities. NotPetya in particular caused vast amounts of financial damage, costing some of its victims hundreds of millions of dollars.

"We should be learning about basic levels of cyber hygiene that may prevent such emails from being successful. Things like spotting suspicious file types and being vigilant to odd-looking email sender addresses,"said Hinchliffe.
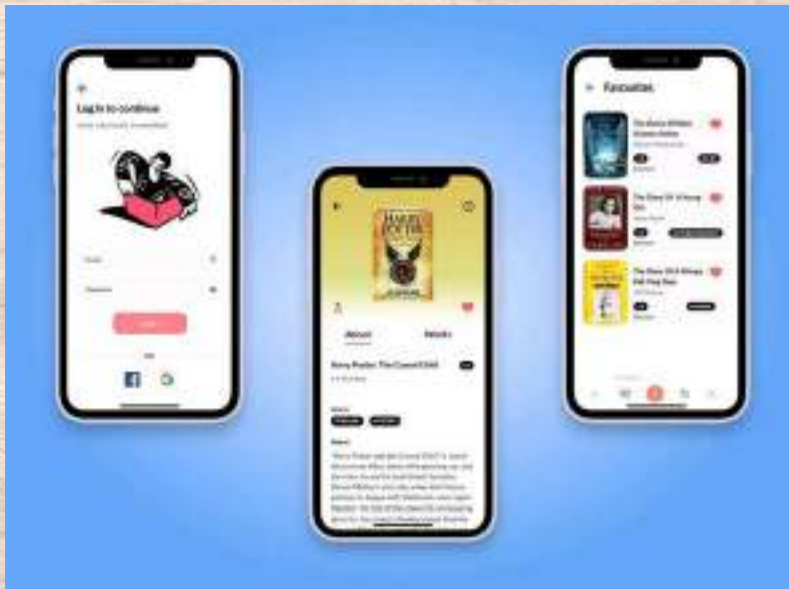

Mythreya Kesavan

2nd year

UX/UI Showcase

Tired of constantly flipping through a dictionary when you encounter new words while reading? This app allows you to easily add new words to your personal vocabulary using your camera or built-in dictionary. The app stores your saved words, so you can easily access them for review and learning in the future


As part of the Sharpen challenge, I have been tasked with creating a user-friendly health app that tracks and helps improve everyday habits for better overall health.

I was tasked to develop an app that suggests restaurants based on the meal type selected by the users.

I have developed an innovative amusement park app that allows users to easily select and schedule rides in advance, as well as access comprehensive information about each ride, including pricing, location, and excitement level.
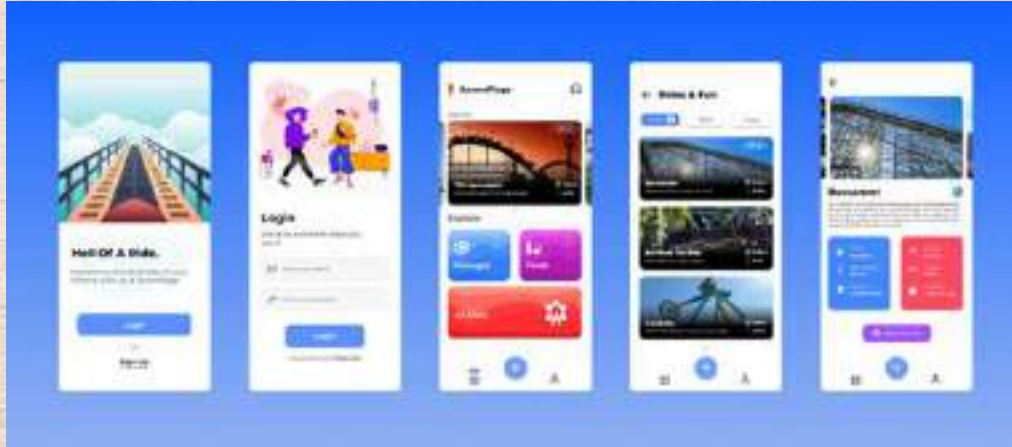
Rupam Banik

2nd year

Bringing back life to lost passion

I have been playing Handball since my 6th grade as Handball and I are inseparable. In 10th grade, I played as a Sub-Goalkeeper representing Erode District, in Erode Handball Team. But due to the pandemic, I couldn't participate in any of the handball competitions in 11th and 12th.

There was a Handball team in our college which unfortunately due to Covid, collapsed. When I came to SSN, neither was the handball team functioning nor did I take any action to start one. Finally, in 3rd semester, I started playing football with my friends. Which is when, one of my friends, advised me to form a handball team. Then, along with a first-year student's help, I started gathering players for the Handball team. Finally, after forming a team, we registered for college zonal. We had exactly only one month's time for practice post registration. Within this short period, we managed to find new players in the team, and started practicing. I was in the Right-Wing position in the team. It was a new experience as this time I was not playing as a Goalkeeper.

Our college team was not strong enough to compete due to lack of practice. Even then, we participated in the zonal and played against JPR College. We lost the zonal in the first match itself. In between them, we had loads of academic work to be done with. Initially, it was very tough for us to come and study after our practice till 7 in the evening. And before zonal, we had CAT exams too. So, we were fully occupied and it was very hard to make people come to practice. Having undergone all these circumstances, we still played zonal, but lost the match with a bad score. But, it was a learning experience for new players, who joined the handball team. Still, we, players, need more practice and time to make our college team stronger. I assure that before completing my undergraduate studies, I would at least win zonal representing our college, SSN and leave my legacy of bringing back a Handball team as my seniors had one before Covid.

Prithik N
2nd year

The FIFA World Cup – Qatar 2022

"**And so the time is nigh. Mbappe. Messi. And so much more. Lionel Messi stares up at his final peak, Kylian Mbappe prowls in the foothills of greatness, from the Andes to the Alps, from Riverplate to the banks of the Séné, our planet unites around its ultimate game**" from Peter Drury, the Shakespeare of football, still gives us goosebumps till date every time it is played. After 64 matches, a record 172 goals, **one of the best (and most evenly priced) finals in history** and the prior 12 years of existential footballing crisis, the Qatar 2022 World Cup finally reached its crescendo. In many ways, the footballing gods treated us to a fairytale like no other.

Lionel Messi, the best to ever lace the cleats, lifted the one prize that always seemed to allude to him and extinguished any doubt that he sits alone in the pantheon of football greatness. Whereas on the other hand we saw the early exit of another great namely, Cristiano Ronaldo which made people all over the world emotional regardless of whom they support.

The choice to host the World Cup in Qatar attracted significant criticism, with concerns raised over the country's treatment of migrant workers, women and members of the LGBT community, as well as Qatar's climate, lack of a strong football culture, scheduling changes, and allegations of bribery for hosting rights and wider FIFA corruption.

With the tiny gulf state of Qatar hosting the 2022 FIFA World Cup, everyone from football fans, politicians and commentators had their say on the ethical dilemmas of this year's iteration of the world's biggest sporting event. **Overcoming all these controversies and allegations, we got to see one of the best and emotional world cups ever.**

The 2022 World Cup was the first global tournament where the gap between confederations was significantly closed. Both Asia and Africa stamped their brand onto the world stage. For the first time ever, the Asian Confederation saw three sides reach the Round of 16, producing major upsets throughout their campaigns. **Saudi Arabia was our widest-priced underdog to win at any World Cup in Kindred's recorded history,** when they gave eventual tournament winners Argentina an early group-stage hiccup. We saw Japan top Group E ahead of previous world champions Spain and Germany, as well as Australia, beating 10th world-ranked Denmark and Tunisia as priced outsiders in both respective games, to make the knockout stage.

Then we turn our attention to Africa, particularly Senegal and Morocco, equalling the continent's best-ever group stage performance in 2014 when Algeria and Nigeria reached the knockout rounds. But it was **Morocco who stole our hearts**. The first African and Arab nation to make the final four despite being a 60/1 chance to do so.

And dare I forget about **Croatia**, too, a nation with a population of tiny propositions compared to the main powerhouses, who yet again exceeded themselves, **finishing 3rd.**

All these upsets would see an overall shift from the traditional 'favourite-backing' approach to times when the ledger would be red for the bookmakers' outsiders.

Lionel Messi finally became a World Cup winner at the age of 35 and Peter Drury described the special moment in wonderful fashion.

Drury, easily the best commentator for the big moments, came up clutch again when Montiel slotted in his spot-kick and two-goal hero Messi fell to his knees in euphoria. As celebrations were ramped up from an Argentina perspective ahead of the trophy lift, Drury continued to produce poetic goodness for Messi's long-awaited triumph.

"Lionel Messi has shaken hands with paradise," Drury added. "The little boy from Rosario, Santa Fe, has just pitched up in heaven. He climbs into a galaxy of his own. He has his crowning moment and of course he is not alone" will go down as one of the best commentaries of all time.

Football in particular, also known as 'the world game' **is the most global sport. It possess' extreme power to unite people of all origins,** filling stadiums all over the world, bringing audiences from all over the globe to the television set.

Many of the worlds, greatest footballers came from extremely disadvantaged or poor backgrounds. Ronaldo and other footballers who came from ridiculously poor backgrounds, that are now some of the greatest footballers in the world, looked up to their idols and pushed themselves to be something. This gives disadvantaged children all over the world hope. It gives them something to hunger after, poor or not. **Sport unites them when other things like money and education might divide them.**

The spirit of sports gives each of us who participate an opportunity to be creative. **Sport knows no sex, age, race or religion. Sport gives us all the ability to test ourselves mentally, physically and emotionally in a way no other aspect of life can.** For many of us who struggle with 'fitting in' or our identity – sport gives us our first face of confidence.

Even though sport unites us to divide us in a sense, **there is a lot of unity in the 'world game'.** In a game of football, if a player gets injured most teams will put the ball aside or out of play as a mark of respect. Even though two teams are against each other on the pitch, everyone is united. Or if a player plays really well or scores a ridiculously good goal, usually they would receive a standing ovation from both sets of supporters. A lot of players wear anti-racism bands at different games too. **Whether you are rich or poor, black or white, male or female, football is football.**

Lokesh Adithya

2nd year

Managing Two Undergrad Courses

Managing two undergraduate degrees simultaneously can be a challenging task, but it can also be very rewarding. In my case, I am pursuing **a degree in Information Technology** from **SSN College of Engineering** and a **B.S in Programming and Data Science** from **IIT Madras.** Both of these degrees have a common subset of subjects, which allows me to apply the knowledge I gain from one degree to the other.

The IIT Madras program is very industry-oriented, with a focus on practical applications of programming and data science. The course is divided into two categories: software development and data science. In the software development category, subjects such as application development, DBMS, Core Java, and shell programming for automation are taught. In the data science category, subjects such as machine learning, business data management and machine learning workflow are taught. The curriculum is designed to prepare students for careers in the tech industry. On the other hand, **the SSN College of Engineering program is more academic-oriented, with a focus on the theoretical foundations of information technology.** The important subjects in SSN degree include Data structures and algorithms, Computer Networks, operating system, database management systems and software engineering.

The combination of these two programs provides me with a **well-rounded education that prepares me for both academia and industry.** The similarity among the pool of courses is the use of **programming languages like Java and Python,** which is a common language used in both the degrees.

The difference is the level of depth of the subjects, for example, the **machine learning** subject in IITM is more advanced and hands on compared to the machine learning subject in SSN. This helps me to have a broader perspective of the subject.

As a day scholar, I have to spend around three hours of time travelling from college to home. **Despite this tight time schedule, I have been able to excel in both degrees by developing effective time management strategies.**

One of the most important things I have learned is to make the most of my time. **I prioritize my assignments and exams, and make sure to allocate enough time for each task.** I also try to make use of the time I spend travelling by reviewing my notes or reading relevant articles or papers.

Another significant aspect of time management is to **stay organized.** I keep track of all my assignments, exams, and deadlines in a **calendar**, which helps me to stay on top of my schedule. I also try to **break down large tasks into smaller, more manageable chunks**. This makes it easier for me to stay focused and avoid procrastination.

In addition, I try to balance my workload between the two degrees. I spread my time and energy evenly between the two programs, which helps me to avoid burnout and stay fresh. This allows me to excel in both degrees and maintain a good balance between my academic and personal life.

However, pursuing two degrees also comes with its own set of drawbacks. One of the major drawbacks is that there will not be much leisure time and there will be very less time to explore one's passion. This can be a problem for students who have other interests and hobbies that they want to pursue. Additionally, the workload can be very demanding, which can be stressful at times.

In conclusion, managing two undergraduate degrees simultaneously can be challenging. But it will be worth the time and effort.

Gokulakrishnan B

3rd year

Cricket in my life

This is Shriram here from third year IT-B. On an average day, you could spot me at the cricket nets in the morning, attend college and then get back to the nets once I reach home. Though the statement might be generic, it really holds a deep meaning when I say it : **"Cricket means the world to me".** All I can remember is the New Zealand cricket team catching 7 year old Shriram's eyes. To be precise, it was the game against Sri Lanka which the kiwis won by a fair margin. It was the first time I sat and watched an international game. Can't get over the fact how crazy I was over Daniel Vettori, the only reason I started bowling left arm spin and here I am with a 2nd Division stint for IOB. Makes me realize how fast days pass by.

Though I used to watch a lot of cricket, especially the blackcaps way too close, **I started taking the game seriously when I was in 6th grade when there was a summer cricket camp held at my school.** Soon after, I played my first ever cricket match, still remembering how my mom dropped me off at the ground.

Fast forward one and a half years, **I went on to represent my district cricket team (Salem), I did the same for 3 years continuously : U-14 twice and U-16 once.**

But to me, the biggest transition was when we decided to move to Chennai which was always on the cards for my family. **My first year in Chennai, I represented a 5th division team and also represented the hard to get "City XI". The next year, it was my first year playing at the U-19 level.** I played for the City team again, and also landed myself a chance in a 4th division team run by India Cements.

Elated by the tiny improvements here and there that made me always explore my chances in the game, my major hiccup was during the covid season. I still represented the city team, but was not in the best of my form which genuinely only motivated me to get better. Couple years later now, **I play 2nd division in the TNCA league circuit for the team Indian Overseas Bank. The challenging part to me was constantly having to manage studies and my cricketing interests. But I am thankful that I have always ended up at the right place that helps me manage it with ease.** Though the future might be uncertain like always in any sporting field, my interest and passion for this game shares a bond with me thicker than that of a covalent bond.

DON'T STOP CHASING YOUR DREAMS,
BECAUSE DREAMS DO COME TRUE.

🇮🇳 SACHIN TENDULKAR

ICC-CRICKET.COM

Shriram

3rd year

LIFE WITH AN EYE CLOSED

What would life look like with an eye closed?
Is it going to be any brighter?
OR
Is it worse than walking on a ledge with both eyes closed**?**

These catechisms are like darts, that have come into the clutches of a dilating space, inching as I grow. What it takes for a perfect aim is just a moment of introspection, as we stop moving further and retire ourselves to the ticking hands. Time answers. Listening to it is the key for a perfect aim. The space stops inching for that moment, and the dart, with its ever-increasing velocity hits the mind, giving us immense satisfaction, the one we have after a good cup of caffeine. (Psst! It is after a good cup of milk for me.)

What can we do with satisfaction?

We can buy a plot of land with a signboard that reads: TO ANYONE WHO IS EXTREMELY SATISFIED. I call this plot of lands as REALIZATION.
In a quest for REALIZATION, I close my eyes and surrender myself to the ever-ticking hands of the clock and the never-ending space of life.

And… I am listening… It is ticking.

Tick. Tick. Tick.

Welcome to my life's excerpt, which dates back to 20th April 2019.

We ran into a pharmacy for genacote. "Excuse me, ma'am, I am a doctor. Can you pass me genacote immediately? It is an emergency" said my cousin to the pharmacist. On the walls of the pharmacy, there were pictures of the omnipresent. They asked us to wait for a moment and took an eternity. The careless pharmacist was talking over the phone without giving any concern towards the emergency. The lights in the shop were flickering. The suspicion of present ideologies and fear, knocking my eyelids as if it were some soul reaper, made me squint and close my eyes.

The car I was traveling in suddenly stopped and that jerk made me open my eyes. My cousin was driving the car and my aunt was sitting behind. A crowd gathered around a small part of the road. We hopped out of the car to investigate the crowd. A girl had stroke and she was neither able to move nor speak.

My aunt and cousin threw their handbags and other items into the air and it landed on my hands. They bore a soul on their lap. "Both of you go to the pharmacy. Make it quick" My aunt said. "We have to buy genacote" My cousin said with enough clarity. But the dilating space slowed time down as we marched to the pharmacy. The brightness of the evening sun made me close my eyes.

I blinked back at my watch, which spoke back numbers. It was 8:15 PM and the date was 20/04/18. I was walking back home from my evening class. "Can you please give me some money? I am hungry." asked an old man. If I was earning, I would have given it. But it was my father's money. So, I need to ask him before I even proceed. Basically, I am dependent. I tried explaining my situation.

He did not understand my problem. Neither did I understand his. If you are hungry, Will you listen to any excuses for not being able to provide food. The same goes for the old man. But I learned something about life.

What is wrong with you people! I already told you about the girl's condition. She is on the road. How much time do you need to give a single piece of a tablet?" asked my cousin. I opened my eyes. This time I could not only see the picture. I turned around to find people helping the girl, catching a taxi, talking with the pharmacist, and many more to add. On the walls of the pharmacy, I could find a special solution to all problems.
"CHANGE THE WAY YOU LOOK AT THINGS, THE THINGS YOU LOOK AT CHANGE……"
From then on, I never closed my eyes.

**Partly Inspired from
Anthony De Mello's book,
The Heart of the Enlightened**

Raghavan Ramesh

3rd Year

SIH Experience

Smart India Hackathon is a nationwide initiative which helps students to showcase their talents by providing software and hardware solutions for problems we face in daily life. It is a 36 hour hackathon with three rounds of evaluation.

I recently had the opportunity to participate in the Smart India Hackathon (SIH) for the first time in my three years of college. Our team, which consists of six members { Our team 405Found members- Ashwath S (ECE), Paari A(EEE), Pavan Santhosh (ECE), Pradeeshwar (ECE), Vamsi Krishna (Mechanical), and I}, worked towards finding a solution to the problem under Smart Education:

"How to use Aadhaar number of students to identify fake enrolment, duplication and authentication of students". We were fortunate enough to have **Dr Ashwinth Janarthanan, Assistant Prof, IT dept and Prashanthram M, Amazon,** as our mentors. This task of ours required a software-based solution hence we created a mobile application and web applications using HTML/CSS, React, and MongoDB. It was amazing to see how we were able to combine our skills to come up with a solution that was not only innovative but also practical.

The hackathon was conducted at D Y Patil International University, Pune. So we arrived there, after a 19hr train journey, a day in advance to get comfortable with our environment.

On the day of the hackathon, the atmosphere was buzzing with excitement, as teams worked tirelessly to create something truly impactful. Despite feeling unsure during the first round, our team came together and was able to turn things around during the second round. To maintain our energy and focus, we engaged in nighttime entertainment like having live bands perform. We continued working after catching up with 2-3 hours of sleep.

Each of us played a unique role in the development process and it was inspiring to see how well we worked together at the later stage. This competition was not only a test of our technical skills but also a testament to the level of competition among the students' community.

One of the highlights of SIH was the valuable insights towards the deployment of projects in real-time during the interaction with industrial experts. I would like to extend my thanks to our HOD, Dr C. Aravindan for providing me with this opportunity. The Smart India Hackathon was a memorable experience that I will cherish for years to come.

Supriya Abirami A

3rd year

Getting Started with Open Source Contribution

Hi, there! I am Gokulakrishnan S - a final year student from the department of Information Technology. In this short article, I want to walk you through my experience contributing to the open source community as well as share a few helpful pointers.

What is open source?

Open source is **source code that is made freely available for usage, possible modification and redistribution**. The most popular platform for hosting such source code is **GitHub**. Some great examples of open source applications and libraries sourced from GitHub include **Mozilla, VLC, Tensorflow** (A ML library by Google), etc.

How it Works?

Projects are made open so that people who use it can raise **"issues"** in the form of **bugs or feature requests** while also making changes to the code as they see fit (provided these changes are approved by the project owners). This benefits both parties - the project owner can get their project enhanced free of cost while the contributor gets a good work experience and also has their contributions acknowledged in the project.

Why to do this?

First, you **get a better understanding of version control using git**. Second, you also get to feel **what it's like to work on an actual project** while also learning many new technologies on the go. Third, it **adds immense value to your resume** as open source contribution is a skill that companies look for.

Pre-requisites

First, some **knowledge about git and GitHub are required**. There are enormous sources to learn these and a few of those are linked at the end of the article. However, I would like to stress on this one point - if you don't understand some of these concepts, it's completely fine. **Start DOING things and you will automatically understand better**. Working on GitHub mostly involves learning on the go.

How to Get Started?

Search for issues that have the **"good first issue"** tag.
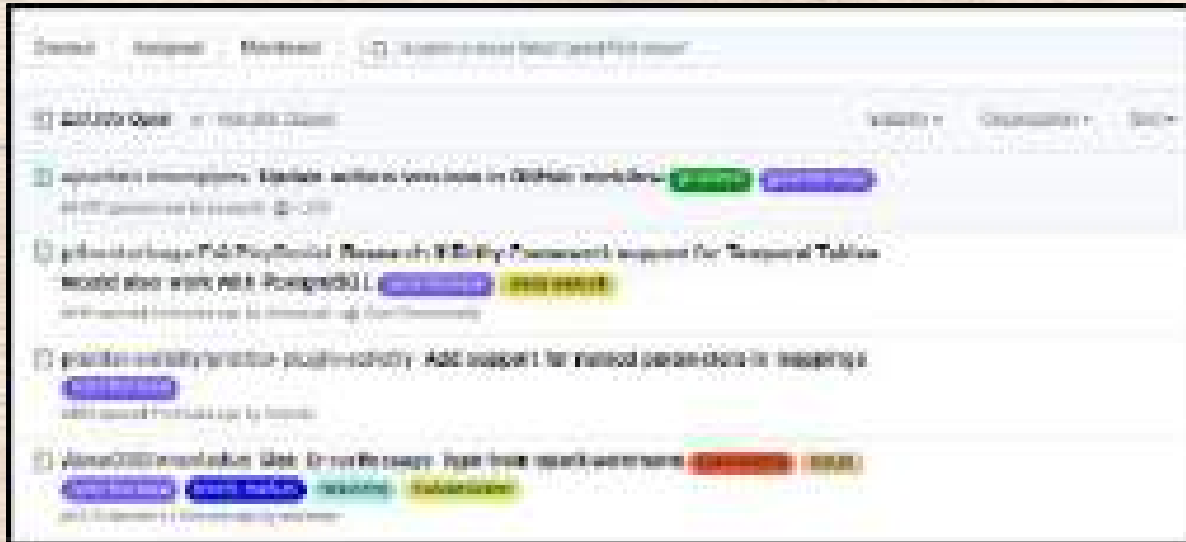
It will definitely look a bit overwhelming the first time, but keep scrolling until you find something you feel you can do. I remember doing a lot of scrolling until I found my first issue to contribute to. Sometimes, the title may be a bit confusing, but if you click on it and read through the issue, it may turn out to be quite simple. Remember, **good first issues are intended to strike a balance between 'easy' and 'a little complicated'** so that you are intrigued and that you learn something. **Once you have decided on an issue, ensure that it's not already assigned to someone.** If it's not assigned to anyone, you can ask for it to be assigned to you. Here's a small example.

After that, fork the repository and make a pull request. (If this last sentence did not make sense, don't worry. Just have a look at the links given at the end!)

What to Avoid?

I would suggest **avoiding contributing to repositories that ask for DSA-solutions** and the like. One of the important objectives of open-source contribution is to **gain experience by working on actual projects** rather than just writing algorithms in C++ or Python. So contribute to projects that serve some specific purpose.

A Clarification

Continuing with the point of contributing to a project that serves a well-defined purpose, this does not mean that your contribution needs to be hugely impactful. **Your initial contributions can be as simple as deleting a few specific lines in a file or correcting some typos**. Once you get the hang of it, you can move on to intermediate or advanced stuff.

Events to Look Out For

- *Google Summer of Code (GSoC)*

  This is an **international annual program** in which **Google awards stipends** to contributors who successfully complete **a free and open-source software coding project during the summer**. This is really a cool opportunity and you can read more about it here: https://summerofcode.withgoogle.com/

- *Hacktoberfest*

  This is an **annual celebration of the open-source community** that occurs throughout the month of **October** run by **DigitalOcean**. You just need to **make 4 PRs** that get merged - and you can choose either to get a T-shirt or a tree planted in your name. Of course, there're more details to this - check out last year's Hacktoberfest here: https://hacktoberfest.com/

Some Useful Links:

- https://www.youtube.com/playlistlist=PL4cUxeGkcC9goX bgTDQ0n_4TBzOO0ocPR
- https://youtu.be/W7AewHnxMig
- https://docs.github.com/en/search-github/searching-on-github/searching-issues-and-pull-requests
- https://docs.github.com/en/get-started/quickstart/contributing-to-projects
- https://youtu.be/8A4TsoXJOs8

Gokulakrishnan S

4th Year

Run your life on easy mode using these 7 AI Tools

1.Beatoven:

Link: https://beatoven.ai

Say, you want to create a YouTube video and want to keep your audience engaged and you decide to add relevant background music but decide against adding the cliched non-copyrighted background music used by almost everyone. You want a **unique tone** but you realize that music composition is not your strongest suit. Beatoven fixes this exact problem by **generating music for you** while you just input the duration, genre, and emotion of the song you desire.

2. DALL E 2:

Link: https://openai.com/dall-e-2/

DALL·E 2 takes in the **description of the image(s) the user desires to get as the output**. It uses something called a **diffusion model**, where it tries to encode the entire text into one description to generate an image. But once the text has a lot more details, it is hard for a single description to capture it all. It will be a useful tool to make prototypes of different ideas without investing much effort and time. For accurate results, along with the description of the image, it's suggested that the type of the image is also given as the input (like a sketch, 3D art, photorealistic style, etc.)

3. DoNotPay:

Link: https://donotpay.com/

This is the **world's first robot lawyer**. It requires the user to sign up and use it to sue anyone, fight corporations, find hidden money, and automatically cancel their free trials. The backend of the app uses **IBM Watson AI**.

4. Brancher.ai

Link: https://www.brancher.ai/

Brancher.ai helps a user to **connect multiple AI models to build relevant applications** in a quick time. The website claims that users need not additionally provide code for the applications created using this tool. There are several templates to choose from and the tool also allows the user to monetize the generated application.


5. D-ID

Link: https://www.d-id.com/

Allows the user to **produce customized videos featuring avatars** of their choice. It reduces the cost and hassle of video production by using Stable Diffusion and GPT-3 models. Avatars can be created by providing descriptions of the physical characteristics of the desired person to appear in the final video. Apart from using pre-set avatars and voices, the users can also upload their images, and voices and let the model generate videos for the appropriate script given as input.
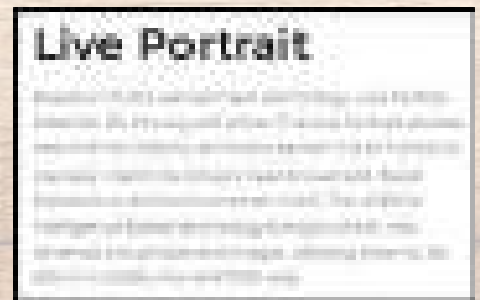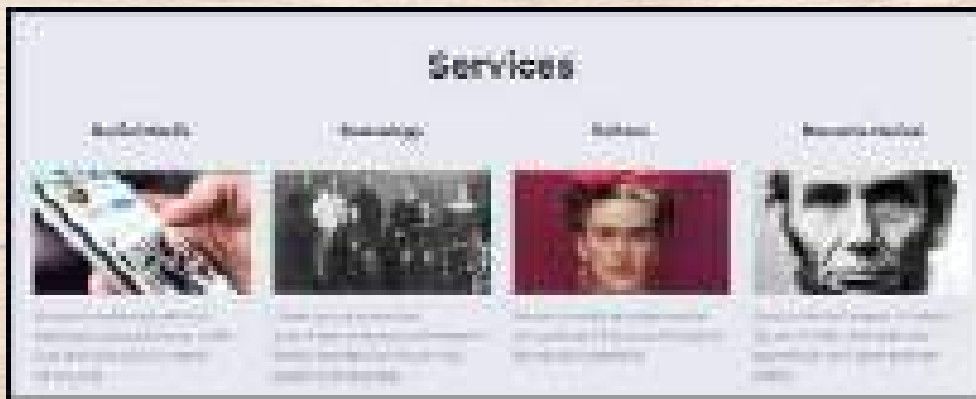
6. Playground

Link: https://playgroundai.com/

PlaygroundAI.com provides an **easy way to edit images / generate images** from scratch by using **text descriptions as input**. The user can choose between the **Stable diffusion 1.5 model**, **Stable Diffusion 2.1 model**, and **DALL·E** to process the images. It also enables the user to remove objects from the image by entering the description of the objects in a separate column. The free version provides 1000 images daily with a fixed resolution, which deteriorates after the first 50 images. There is also a progress bar to set the prompt accuracy and details. The higher the accuracy, the longer the model takes to generate the image.

7. ChatGPT

Link: https://chat.openai.com

How can an article about AI tools not feature one that broke the internet by storm in late 2022 by reaching 1 million + users in a record time? ChatGPT uses **GPT-3 (Generative Pre-trained Transformer) model** to provide human-like text. It takes in **a text as the input from the user and produces a text for the user as the prompt**. The prompt can vary from generic answers to poems, screenplays, and even computer programs for short situations (although it is not a professional tool to write them). The training dataset for the bot is, however, limited to 2021.

B Dinesh

4th Year

A guide to writing original music

Isn't it fascinating how just a bunch of rhythmically vibrating air molecules could affect us this much? It tells us stories, gives us happiness, comfort, even pain and a lot more! **Music, an abstract edifice of tonal notes with the lead melody conveying the essence of the song, the harmonic layers enhancing the lead melody , the rhythm dictating your sways, the chord progressions spicing up the overall production, its not just that**. All of these along with the artist's soul put into it, makes the music whole.

Now let's talk about the process of writing original music. Well obviously this is just one of the existing possibilities, because each artist is unique and will have their own chronology of methods. Given below are a few steps that I feel would give a process flow to your song writing experience.

Inspiration
Whatever the process is, there has to be a trigger point. You can't just write a song just because you want to. There has to be something that fascinated you or affected you in a deeper sense, for you to be able to communicate better through the song.

And only when you establish emotions in your work, the song will serve its purpose. So find your trigger point first. Find the reason for the song to exist and then build on.

Lyrics
This step and the next one are positionally exchangeable. If you are a person who can easily comprehend what you feel with words, go for the lyrics! Else if you are a non verbal feeler then figure the main melody out first. Make sure you keep it simple but powerful. Your lyrics will be based on your inspiration . Be it a thing , or a person, or an event, or something abstract, first list all of your first impressions and impact points about it. This will ensure you don't miss out on what actually made you feel the way you feel about it while you write the song. The lyrical style is totally upto you. It can be poetic, narrative, story telling, conversational, etc .

Main melody

This is the crucial part of the whole process. **This conveys the whole mood of the song. A good melody can even cover up a not so good lyrical piece.** Now, according to your inspiration, fix a ragam/scale. You need not stick with one, but can fuse ragams too. So essentially, you will be getting the list of possible notes that you can utilize. If you have the natural flow then its well and good. Else experiment different patterns, ascends and descends possible with the available notes. Once you start doing this, over time, you will definitely land up on something new and unique to your style. Fix that. Always remember to record even the simplest of ideas. This will help a lot in the end.
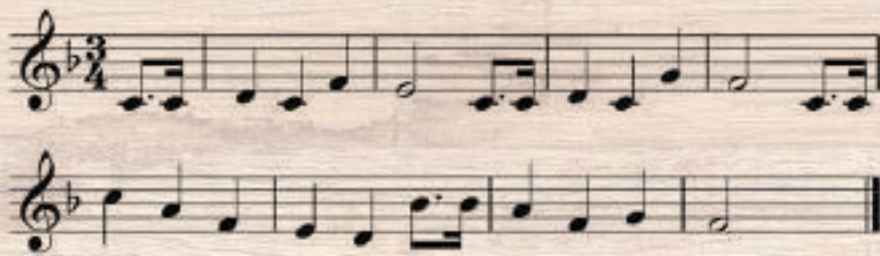
Harmonic layers

This could be done vocally or instrumentally. Harmonies help increase the intensity of your lead melody. **They just add the word "more" to whichever emotion you are trying to convey.** The basic ones are the 3rd and 5th harmonies. From there you can try building up and go beyond and above. My tip, is to go crazy with them.

Chords & Instruments

Now, as mentioned above, you can make your instruments do the harmonies or there could be secondary melodies running simultaneously. A lot could be done. This will depend on your instrumental prowess or the people you collaborate with. And when it comes to chords, they will be definitely based off of the main and sub melodies. **Experiment with all possibilities and assign.**

The rhythm

First write down what naturally feels right to you. Then get creative with the possible time signature changes that could be accommodated, this will make the song more interesting. But also don't overdo it. Keep it simple. And make sure the tone of your drums/percussion matches the mood if the song.

Keep integrating the parts simultaneously as you add new layers. This will ensure that they all are aligned and sound good together. And last but not the least, the Mixing of your production will hugely impact its sounding.

A good mix will help properly deliver your song. Before we reach the end, I came across this recently, **"Bad art is better than no art"** and it actually makes a lot of sense. You create to communicate, to express. And art is something subjective. So when it comes to creating your own art, your own music, never doubt yourself.

Always give it a go!

Happy music!


HSJ Sahana (Aspiring Artist)
4th Year

Facts about Flags

1. The Study of Flags is called Vexillology.
2. There are only 3 National Flags that differ on their Front and Reverse sides.
   (i) Moldova
   (ii) Paraguay
   (iii) Saudi Arabia
3. The Only Non - Rectangular Flag in the world is possessed by Nepal.
4. There are only 2 National Flags that are Square.
   (i) Switzerland
   (ii) Vatican City
5. Only 2 Country has Purple Colour in its Flag
   (i) Nicaragua
   (ii) Dominica
6. Denmark has the Oldest Flag in the world.
7. The Cloth used for Indian Flag must be Khadi.
8. Libya is one of the only countries in recent history up to 2011 to have used a single colour (green) as its national flag.
9. Cyprus's and Kosovo's flag contains an image of their own country.
10. The country with the most colourful flag in the world is Belize with 12 colours.

– R. Rupmala
1st Year, MTech

POETRY
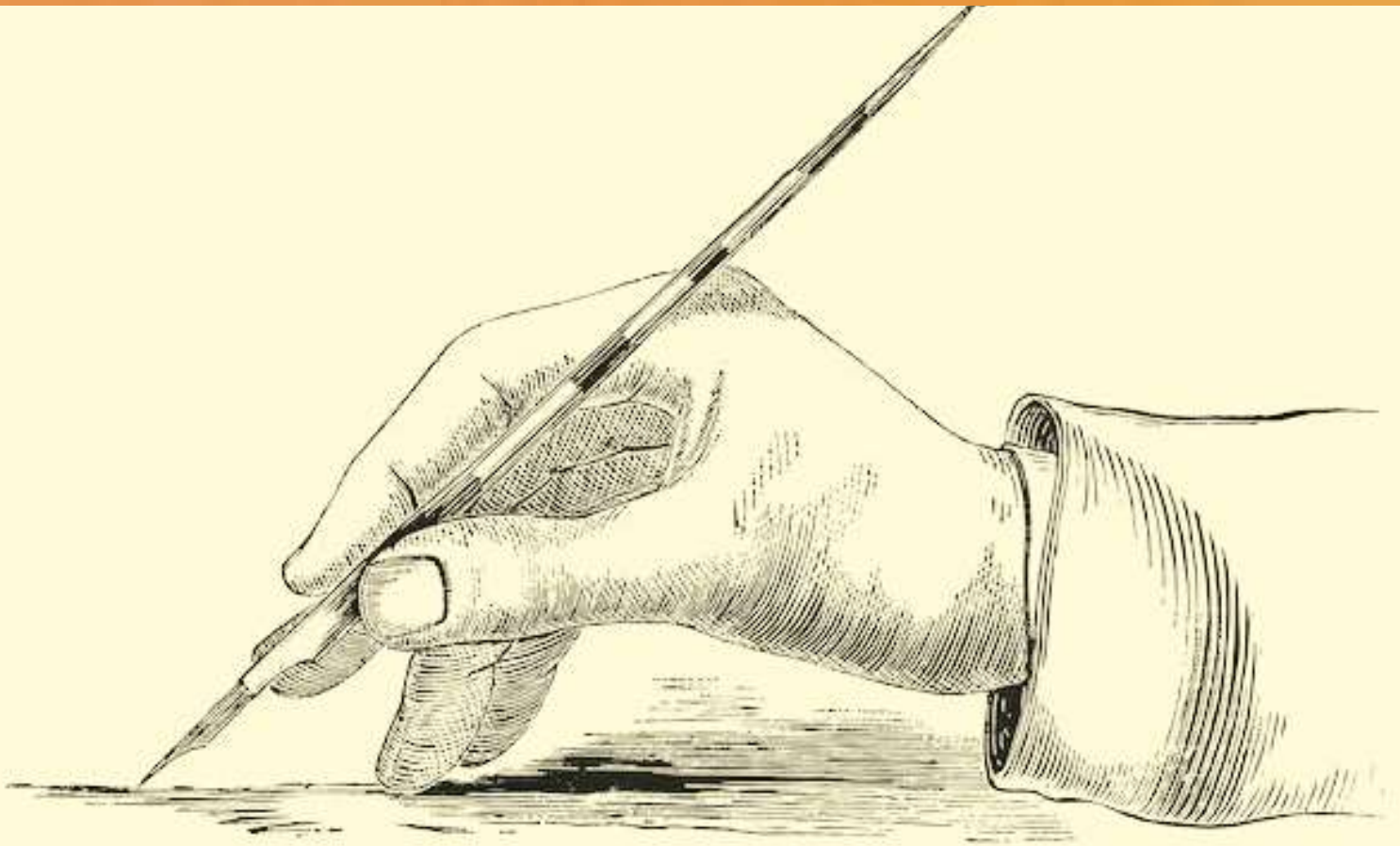
MIND

The dire progression on towards, the fork
Leading to controversial, fluctuating, mind..
One goes towards the problem of finding
Dwelling on it, like blinders
The vision converges,
Clouded judgment
Of one's resolution.

Vast divergence in path
Making decisions waver.
Infinite possibilities, endless fervour guiding.
Leisure of picking out, out of reach.
Practicality dies..
The ocean of waves, gives answers.

Ashutosh R

3rd year

கவியில் என்னவள்

க) மெல்லிய தென்றலில் மேகமாய் மிதந்து வந்த
உன் கார்குழலை தீண்டியதும் பெண்ணே
நானும் மேகமாய் மிதக்க தொடங்கினேன்
காதல் எனும் தென்றலில்

உ) இலக்கு ஏதும் இல்லாமல் இயல்பாக இருந்த
இளைஞனையும்
மொழியின் இலக்கணம் இலக்கியம் முழுவதும்
கவி இயற்ற உவமை தேட வைத்து விட்டு
இளைப்பாறுகின்றாள் இதமாக என் இதயத்தில்

ராகுல் பாண்டியன்
Ragul Pandiyan
3rd year

A WAIL OF AGONY

Alike are him and her,
Yet she is a her, while he be a sir.
Words of worth is she drowned in,
Acts of horror is all awaits her kin.

Conceal yourself, she's told.
A strong hand, you need to hold.
Remain veiled, she's told.
Danger awaits being bold

Master to follow, she's told.
Settle workable to be mould.
Stay secure, she's told.
Preserve your flesh to be extolled.

But what secure is, stays she unaware.
Not inside, outside or anywhere.
Strangers and family alike
Writhes in hush she, as they spike.

Her nobility lays not in her grasp
Remains it, at the mercy of an unknown clasp.
A piece of flesh to be ravished
And slip out unpunished.

Actions and morals degraded are his
Forced is she, to suffer without a hiss.
In agony her soul wails
Pained by a thousand nails.

Not is she to make a sound
For she is a her, destined to be bound.
Matters not her wish and desire
For breathes she on the pyre lit by her sire.

Will the bell of her autonomy ever ring?
Will she ever spread her wing?
When is the morning that wakes her astir?
When is the night that solace finds her?

The day, not too far out of sight
Only if it is a united fight.
Alike are him and her.
Should they live in harmony without a stir.

Jovitha Sahayaraj

2nd year

எண்ணங்கள்,
எழுத்துக்களாய்...

க) முடி நரைத்த பின்பும்
என்றும் நரைக்காமல்,
மேகத்தின் முதல் மழைத்துளி
மண்ணில் விழுந்து
முளைக்கும் செடி போல்,
எப்பொழுதும் புத்துயிர்
பெற்றிருப்பதே
அன்பின் உச்சமென்னும் காதல்!

உ) வானம் எனும் வாழ்க்கையில்
மேகங்களாய் சந்திக்கும் பல மனிதர்கள்
கொடுக்கும் காயங்களை உள்வாங்கி
மழையாய் அழ
வெள்ளமாய் மனம் வெதும்ப
இறுதியில் கரை சேருகின்றோம்
நினைவுகளோடு!

நித்திஷ்
Nithish S

2nd year

जवानों पर कविता

ऋणी हैं हम उन जवानों के,
जो सरहदों पर अपना जीवन बिताते हैं/
फ़र्ज़ के नाम पर देखो कैसे यह वीर,
मुस्कुराकर मौत को गले लगाते हैं/

हम मनाते दिवाली पटाखों के संग,
और होली पर रंग उड़ाते हैं/
कलेजा है हमारे वीरों का,
जो हर त्योहार गोले-बारूद के बीच मनाते हैं/

मंदिर-मस्जिद के नाम पर,
बस हम धर्मों को बाटे हैं/
न दोहराना यह गलती हमारे सैनिकों संग
क्योंकि वे सिर्फ तिरंगे के आगे अपना
शीश झुकाते हैं!!!

जय हिन्द!!!

Renuka

1st year, MTech

PHOTOGRAPHY

Thanks to the pandemic, I was able to cultivate my talent, see what I was worthy of and through this wonderful journey I found myself.

Most of the pictures I took are from my hometown, Pattukottai located near Thanjavur which is neither a birding hub nor a sanctuary. I started to find birds and good frames in the outskirts, lakes and ponds of the city. The best way to indulge in wildlife photography is to indulge in capturing birds wherein you'll learn about their behavior and approach.

Speaking of my love for photography, the love for the light never ends and it's always magical searching for the birds and going all the way to eye level. The view I see in the viewfinder gives me moments that never fade away.
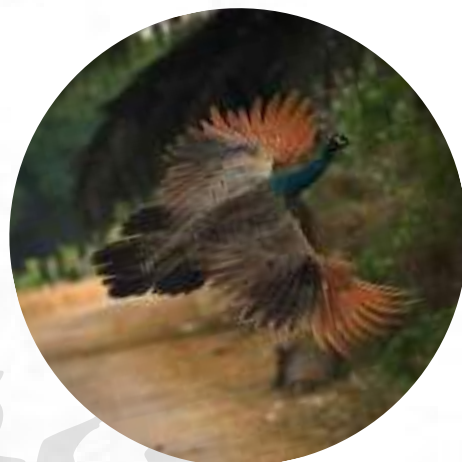
Manoj Kumar S

2nd year

Naila Nuhman

2nd year

One that made me happy and gave me peace
when I was worrying about something.

Kanitha S A

2nd year

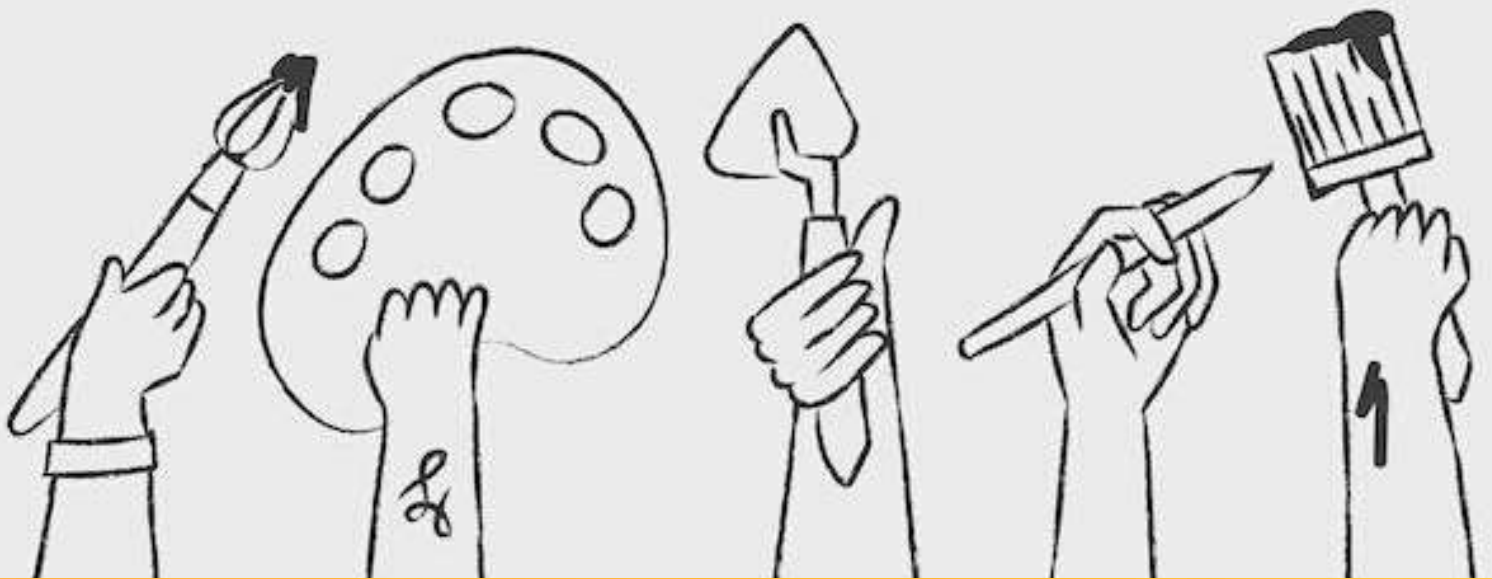**Sai Vishvesh**

3rd year

Renuka

1st year, MTech

Renisha

1st year, MTech

ART WORKS

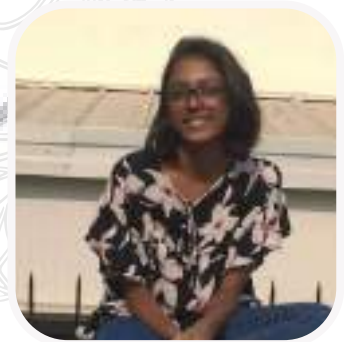Tejaswini

3rd year

Deepak

3rd year

Ragul T
3rd year

Tejshree
2nd year

Srujana Srinivasan
2nd year

Vinitha

3rd year

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