

COMPUTER SCIENCE & ENGINEERING

Issue 2022



Mahindra
University

Global Thinkers. Engaged Leaders.

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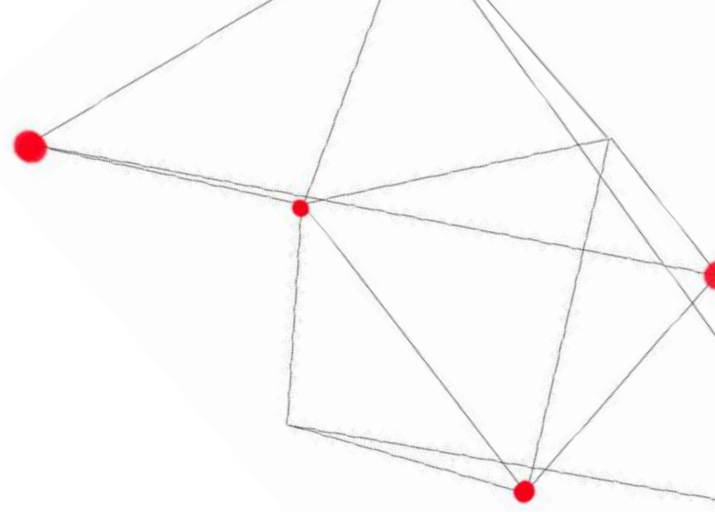
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A Message From The Vice Chancellor



I'm pleased to release the second issue of the Annual Newsletter of the Department of Computer Science and Engineering. The campus hasn't looked the same for nearly two years, and with students making their way back, we are happy to return to a state of normalcy. I am proud to see our students leaving their mark at national and international events. And, this is what we aim to achieve - an education that imparts skills, encourages out-of-the-box thinking and helps build character to contribute to society and the world. I applaud the department for continuing this initiative, and I look forward to future issues of the newsletter.

Yajulu Medury

A Message From The HOD



It gives me immense pleasure to release the CSE newsletter which represents a panoramic view of the achievements of our department in the AY 2021-22. Making their way back to campus, the students took part in several academic, extra-curricular, and research activities, making the AY quite lively. I congratulate the achievers for bringing laurels to the institute. Let's continue the trend. The quality of the department's numerous activities is promising. As you flip the pages, I am sure that you will relive the successful journey of the department. Lastly, I applaud the students editorial team for their commendable effort to bring out this issue of the newsletter.

Arya Kumar Bhattacharya

Introduction

Welcome to the 2021-2022 Issue of the Department of Computer Science and Engineering Newsletter of Mahindra University. This issue is dedicated to featuring various department activities, student achievements, faculty and their distinguished contributions, and the future endeavours of the class of 2018.

Over the years, Mahindra University's CSE program has made continuous progress and shaped leaders that are now all over the world. The vision of the program is to build an environment **encouraging innovative thinking** while producing ethical technological leaders and entrepreneurs who strive to achieve academic and research excellence while **producing global solutions for scientific and societal challenges**.

The mission, meanwhile, has been aimed to be a **leader & knowledge partner** in theoretical and applied areas of computer science, creating a **leading science and technology innovation hub** with high-quality research and active collaborations with industry partners, and meeting the nation's demands in technology and multi-disciplinary skills by **establishing a dynamic and flexible environment** that produces a steady stream of professionals with high ethics and integrity.

This year, as Mahindra University students made their way back to campus after nearly two years of the virtual experience, we cannot be more grateful to see the campus as it's meant to be. The student body has made this academic year productive and fruitful, even bringing back Airo and Aether, the biggest celebrations of the University. Our team is delighted to share with you a happening year of events, achievements, projects, publications, and honouring the momentous students and faculty. We hope you enjoy this Issue as much as we did creating it.

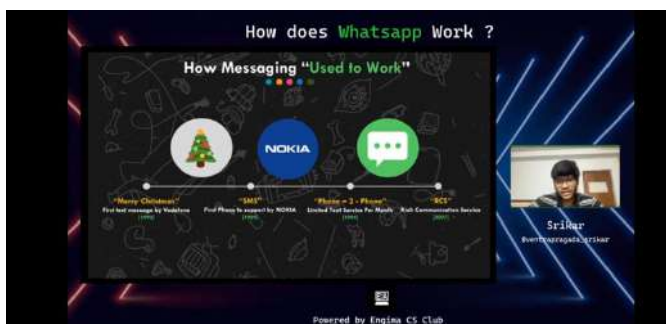
Club Activities

AUG 2021

Live Streams

Three live streams were conducted:

- 1) Map Generation.
- 2) imaging the future (how do cameras work?)
- 3) How does Whatsapp work?



DEC 2021

Yeetcode

An online Competitive coding event hosted in collaboration with CodingNinjas.

Map generation using Conway's game of Life

- You may notice that there are a lot of irregular peaks and trenches. This looked a bit weird to us as well, so we decided to look into ways to smoothen the generated terrain.
- We looked online and found a mathematical technique called Gaussian Smoothing that helped us achieve this exact outcome.



OCT 2021

Hacktoberfest

Allowed students to familiarize themselves with Git & GitHub. The club talked about open source technologies in this month long event & provided incentives like stickers & t-shirts for participants.

NOV 2021

Origin of RECON

Raspberry Pi Engineered Cluster Over Net

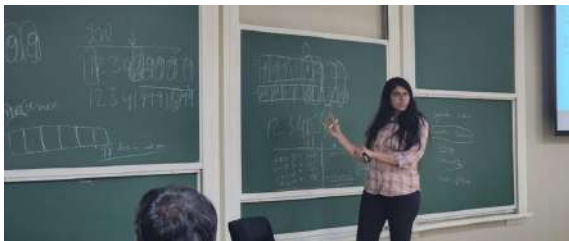
Cluster of Raspberry Pis used to implement and learn multiple concepts of advanced computing like distributed systems, parallel programming & container-orchestration.

Club Activities

JAN 2022

Hashcode Session

Vivek Dhir's take on how to approach problem statements specifically those of Google hashcodes.



APR 2022

Hurricane Club Inauguration

The club introduced weekly coding contests and hosted multiple speakers who shared their experiences in the technical field.



MAR 2022

Battleship

Battleship is a week long event where participating teams had to come up with their own efficient algorithm to win against each other in a custom modular battleship simulation game made by Enigma.



Club Activities

MAY 2022

Reverse Coding Contest

A programming competition where participants had to think creatively in reverse and solve challenging problems with a unique twist.



Roboverse Inauguration

The official Robotics Club of MU. The club introduced the OC members, the upcoming events, and successfully conducted an icebreaker event for interested individuals.

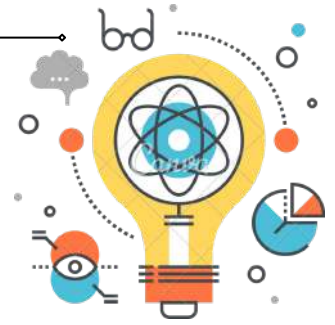


Robomaze - Tangled

An overnight Robotics Maze solving competition, with a total of three maze levels and a prize pool of 20k.



Student Achievements



Robocon 2022

Doordarshan Robocon'22 India is a National Competition hosted by IIT Delhi. This year's theme was Lagori, an ancient game that originated in the southern part of India.

Robocon team - **Rahul Arepaka (CSE), Maneesh Kolli (CSE), Prakhar Gupta (CSE), Rounak Das (CSE), Jatin Raj (EEE), Mayukh Nandula (ME.), Lohit Garje (AI)** - built two robots: a Shooter Robot and a Seeker Robot. The main objective of a shooter robot is to target the stacked discs while the seeker robot re-stacks them. The team successfully qualified both rounds and is ready to face competitors from all over the country this **July**.

Did You Know?
The First Indian Lagori Premier League was held in 2017!



Ice Bear Society

Ice Bear Society is the brainchild of six tech-savvy and creative engineering students@MU. With a collection of 3333 unique polar bears through donations, Ice Bear Society is a rare, one-of-a-kind **NFT project**. The project has a robust community of 1500 people, hailing from all parts of the world including the United States, the Middle East, India, United Kingdom, Ukraine, and Canada.



Student Achievements

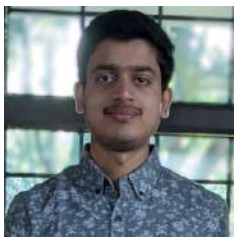


Tapan



The Battleship

- 1st 'The High Table' by Tapan
- 2nd 'CRIP' by Sushant, Syed & Charan
- 3rd 'Bang' by Vivek



Sushant



Syed



Charan



Reverse Coding

- 1st Gauransh Khurana
- 2nd Vivek Dhir
- 3rd Hrushit Ram Koduri



Gauransh



Hrushit



MU Hacks

- 1st 'MUGO' by Vivek
- 2nd 'MUApp' by Mohan, Srujith, Abhiram
- 3rd 'MU Destination' by Sai Sanjit



Vivek



Sanjit

Research & Publications

Class of '17 students **Sai Sujay Masina, Gattagoni Naveneeth, and Nimmaneni Sathvik** submitted a paper on, "Intertwining of Communities, Core and Periphery in Complex Networks" to the ICETCI Conference 2022, hosted by MU, under their advisors Dr. Yayati Gupta and Dr. Sanatan Sukhija.

CSE students **Shagufta Anjum (class of '19)** and **Rayid Ali Masood (class of '18)** submitted a paper on, "Leveraging Network Similarity Measures for Recommendation Systems", to the ICETCI Conference 2022 with project advisors Dr. Yayati Gupta and Dr. Sanatan Sukhija.

CSE '17 Students **Prakruti Singh Thakur and Abdul Khaliq along with Rohan Joseph** from CSE '18 batch will be presenting their work on "Identifying Human Needs through Social Media" in the 10th Social NLP, NAACL 2022 in July' 22 and in the 8th International Conference on Computational Social Science at Chicago Booth Harper Centre.

Abdul Khaliq and **Rohan Joseph** presented their work entitled "#covid is war and #vaccine is weapon? COVID-19 metaphors in India" in the 18th International Conference on Natural Language Processing (ICON), NLPAL.

CSE'18 Students **Smriti Suresh** and **Neha Bogireddy** have created a dataset of COVID-19 Humour and are designing a neural model to flag offensive Humor on social media. **Sakshi Methukapally** with CSE'17 students are analysing food eating patterns before and during COVID-19.

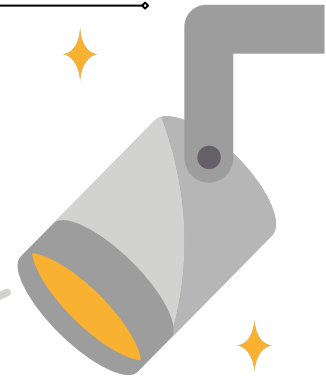


Best Research Paper Award



Dr. Rama Murthy won the **best paper award** for his work on "**Recent Advancements and Innovations in Computing, Communications, and Information Technologies.**" Congratulations to Dr. Murthy

Faculty Spotlight



For students looking to indulge in research projects, some aptitude for mathematics, logical thinking, and programming skills will always be advantageous. Implementing ideas and making real world prototypes is quite helpful. Some emerging fields students can look into are **Quantum Computing, Quantum Cryptography, and Bioinformatics**. All three fields are vastly developing in the current world, and the government should encourage research in such fields in order to bring the world of mathematics and technology forward.



Dr. Rama Murthy
Professor

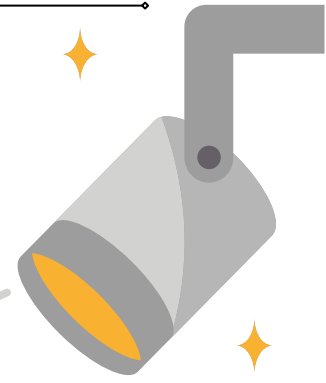


Dr. Raghu Kishore
Associate Professor



The University has seen major changes like high performance computers that are used for dealing huge amounts of data. Students are more interested in developing areas like **UX/UI, Cyber security, and Block chain technology**. **Communication protocols a computer networks** are some other domains that are in huge demand with respect to industry (IOT). Best advice is to concentrate on connecting the dots that they have learned throughout their engineering careers.

Faculty Spotlight



Dedicate 10-15 mins per day learning important CSE topics and what they demand of you. Once you are familiar with a variety of topics, start asking yourself where your interests lie best. Figure out where you want to focus the most and start studying that in depth. Approach professors that specialize in the said field in order to gain experience and get an extensive understanding of the field. Projects pertaining in a single domain rather than multiple domains will be advantageous in students having substantial comprehension of any one field.



Ms. Prafulla Kalapatapu
Academic Associate



Dr. Veeraiah
Assistant Professor



Data Science and Machine Learning are the most lucrative industrial domains. Industry scenario is changing, earlier the industry used to recruit individually for front end, server-side programming and back-end database where all the three groups would then have to coordinate to complete an application. Now, however, the industry is expecting applicants to master all the three areas, also known as full-stack development.

Our Alumna



Kamakshi Moparthy
Class of '16

Kamakshi Moparthy graduated from Mahindra École Centrale in 2020 with a Bachelor's degree in Computer Science. She worked as a software development engineer at **Amazon (Hyderabad)** for about 20 months and resigned recently to pursue her masters at the **Guarini School of Graduate and Advanced Studies, Dartmouth**. Here is some insight on Kamakshi's college experience and beyond.

How has MU impacted your career choices?

"MU has unquestionably played a major role in my career. It's a common misconception that the subjects taught in college have nothing to do with real world problems or business use-cases, on the contrary every solution we come up in the industry is inspired by the concepts we learn during our undergrad. For example, many business use-cases in the transportation org are inspired by computer networks and operating systems. The concepts taught to me as a part of my undergrad degree helped me work in the industry."

What advice do you have for students as they look for future careers or programs to apply to? Can you give a general roadmap for students trying to indulge in tech fields?

"It's crucial for every student to identify the role which aligns with their interests. For example, the team I worked for, had software development engineers, programmer analysts, support engineers, Operational Excellence, Quality assurance engineer, SDE-Testing, Q&A engineers, Technical program manager, Software development Manager (SDM), Data Scientists, etc. The nature of work for each of these roles will depend on the team you are working for, some of teams are looking for AI based approaches and are often expanding their scope where as some teams are confined to solving a very specific business use case. Industry provides us with the opportunity to transition between different kind of roles. Some engineers start their journey in the industry as an SDE and end up being software development manager (SDM)."

Expert Talks

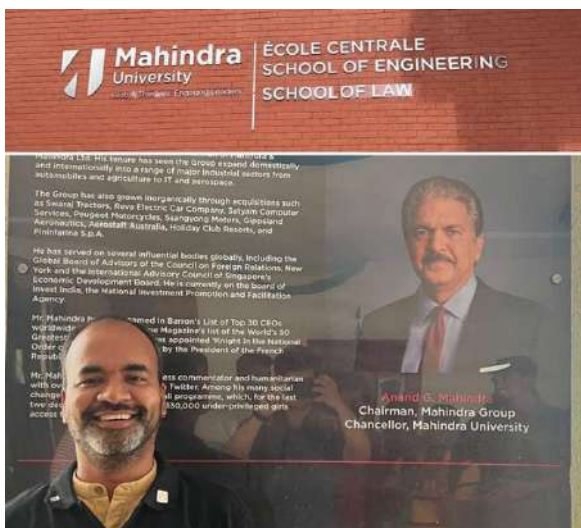
Women in AI Ethics

Mia Shah-Dand, CEO & Founder of Lighthouse3 spoke about responsible innovation at scale. She emphasised on the need to recognise, represent more, and empowerment of talented women in this space.



Data Science For Social Good

Prof. Ponnurangam Kumaraguru (PK), Professor of Computer Science and Dean of Students Affairs, IIIT-Delhi, gave a talk on the topic Data Science for Social Good this May. The session was in efforts to enlighten people on moderating the usage of large amounts of data generated through the internet for the development of our society.



Upcoming Events



The **International Conference on Emerging Techniques in Computational Intelligence (ICETCI)** will be held in Mahindra University from **August 25 to 27, 2022**. The conference will consist of tutorial sessions and keynote lectures by experts and practitioners from all areas of Computational Intelligence.



The **Smart India Hackathon (SIH)** is a nationwide initiative to allow students to solve some of the pressing problems faced in daily lives. The aim is to inculcate a culture of product innovation and a mindset of problem-solving. The challenge is currently going on, with many MU students partaking in it.



The **World Robotics Olympiad** is a global robotics competition for participants between the ages 8-19 years. Mahindra University will be hosting the largest robotics competition this upcoming academic year. Stay tuned!

Celebrating The Class of 2018



Pranav Immaneni
Decision Analyst Associate -
ZS Associates



Poorna Oruganti
Chander
Software engineer
Sterlite technology



Venkat Surendar Talari
Software Engineer
Development Testing at IQVIA



Pranay Bandaru
Decision Analytics Associate,
ZS Associates



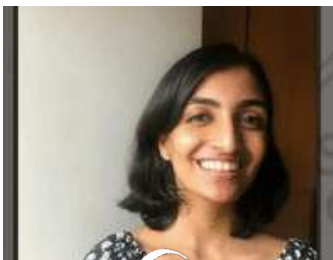
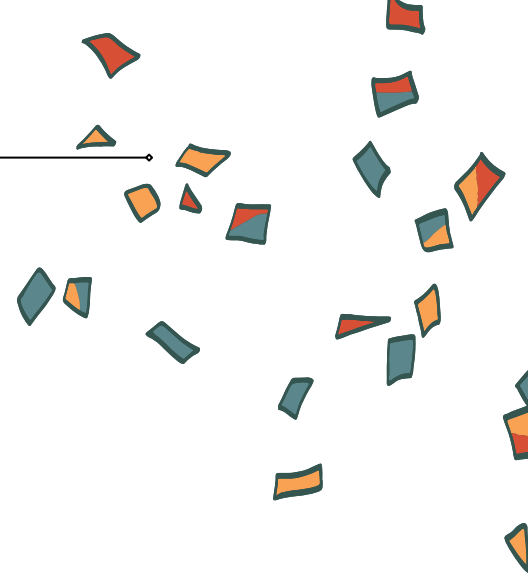
Rohan Joseph
Telstra



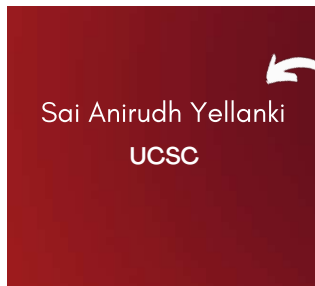
Sahithi Venkatesan
Software Engineer 1
Dell Technologies

CONGRATULATIONS

Celebrating The Class of 2018



Sakshi Reddy
Methkuppally
University of Virginia



Sai Anirudh Yellanki
UCSC



Pakala Shreya Reddy
UC San Diego



Poorna Ch Venkata
Sai Tushara
Management of
Technology-
New York University



Smriti Suresh
Boston University



Neha Bogireddy
George Mason
University



Koushik Yellisetty
Rutgers University
New Jersey



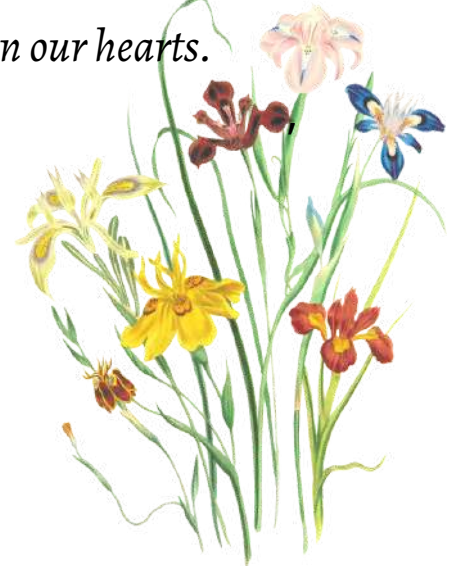
CONGRATULATIONS

Remembering Vijay



Vijay was a wonderful classmate and an even better friend. He was smart, passionate, and driven by the curiosity to learn. He had a knack for picking up new ideas and concepts quickly and was good at finding areas that he could apply them to. He was interested in agrotech and hoped to work towards the improvement of the agriculture and healthcare industry.

Vijay has been an invaluable part of many events in college and his enthusiasm will be missed by us all. Vijay made the world a brighter place and he will continue to live on in our hearts.



Featuring You



Bhavya Chaurasia

Se2ouee011



Likith Gannarapu

Se21uari076



Tejasree Lakshmi Sai Satya

Polireddy

Se21ucse229



Soumik Rao

Se2oueeee033



Valli Sree Lasya

Pasumarthy

Se2oucse218



Saathvika Jali

Se21ucse172



Padma Sravya Tata

Se21uari147

Hope

The little flower was born on barren land, the only life around.
It only saw a day of mirthful sunshine, baby blue sky and melodious chirping of
birds before the roaring rain hit the ground.

The rain oppressing, tried to send the little flower back where it came from,
But all the while the little flower stood strong, trying to win over the raging
storm.

Then came the blazing hot sun, red and fiery, sucking all the strength from the
little flower.

But the little flower did not allow itself to wilt and dry up, fighting till the end,
using all of its power.

The little flowers' sufferings did not end there as the bitter cold took the place of
the scorching heat.

It snowed and snowed, forming a thick snow seat.

Poor little flower shivered and froze.

It learnt of how cold the world truly was in the bitter winter snow.

But the little flowers' misfortunes never seem to end, as the cold snow was soon
replaced by harsh winds.

The gusting wind knocked the little flower off its balance, swinging it from side
to side.

But the tiny flower held its ground, not one to let the wind push it aside.

All this while, a distinct memory of glimmering rays of sun drove the little flower
to fight.

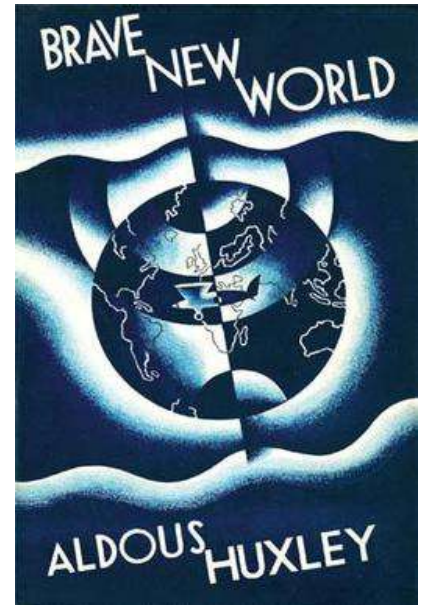
The ray of sunshine, it's ray of hope till the little flower could stand again, tall
and
proud in the spring weather, shining bright.

-Hamsini Mangalampalli

Check This Out!

Brave New World

Brave New World is a dystopian novel about totalitarian social and political structures in the future. It depicts a futuristic World State in which citizens are ecologically engineered into an intelligence-based social hierarchy. The novel foresees enormous scientific advances in reproductive technology, sleep-learning, psychological manipulation, and classical conditioning, which are combined to create a dystopian society that is challenged by only one person: the protagonist.



Women of Color in Tech

Women of Color in Tech: A Blueprint for Inspiring and Mentoring the Next Generation of Technology Innovators will assist you in overcoming the barriers that frequently prevent women of colour from pursuing and remaining in tech careers. Contrary to popular belief, tech careers are diverse and enjoyable, and they extend far beyond coding. This book will show you how today's tech careers are extremely dynamic, and how your soft skills—communication, public speaking, and networking—can help you succeed in tech.

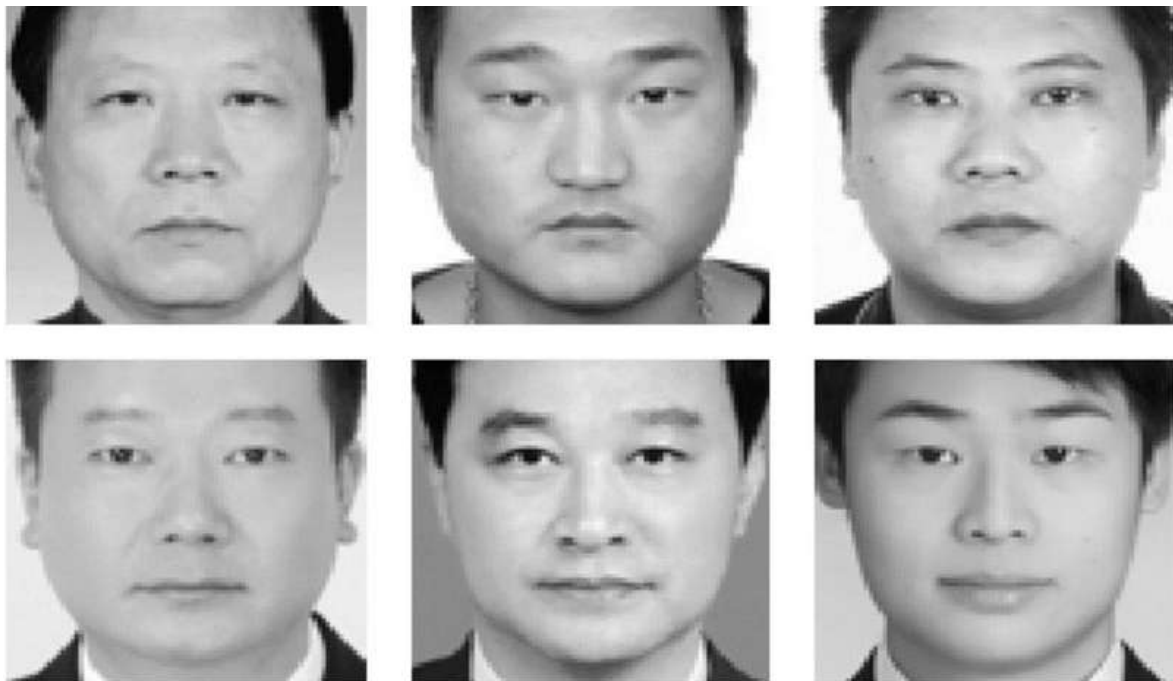




To ponder!

Automatic Crime Detection Computer (ACDC) is an AI based system "capable of predicting whether someone is likely going to be a criminal" using algorithms trained on data like facial scans and criminal statistics. Amazed by the capabilities of ACDC, the AI loving mayor of Algernon city decides to deploy ACDC to make her city crime free. Below are few citizens from this city, whose fate is going to be decided soon.

Who among the six do you think would be predicted as criminal ?



Do you think it's fair to judge suspects through this way? Great is truth, but still greater, from a practical point of view, is silence about truth.

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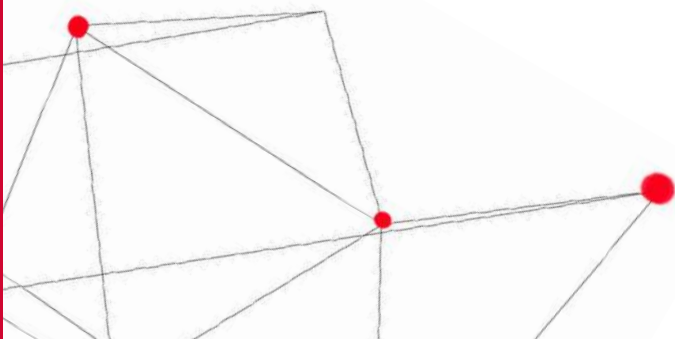




Photo by Likith Gannarapu

