

KONGU ARTS AND SCIENCE COLLEGE (AUTONOMOUS), ERODE – 638107
DEPARTMENT OF COMPUTER TECHNOLOGY AND INFORMATION TECHNOLOGY

IT Bulletin

Volume 11

Issue 1

October 2020

EDITORIAL BOARD

Chief patron : Thiru. K. Palanisamy B.E., M.B.A., M.S.,

Patron : Dr. N.Raman M.B.A., M.Com., M.Phil., B.Ed.,PGDCA.,Ph.D.,

Editor in Chief : Mr. S.Muruganantham M.Sc.,M.Phil.,

Staff Editor : Ms. S.Sadhanayaki M.Sc.,M.Phil.,SET.,NET.,

STUDENT EDITORS

M. BHAVAN	-	II B.Sc.(CT)
G. GOWRI	-	II B.Sc.(CT)
K. HARINI SHAKTHI	-	II B.Sc.(CT)
M. SHANMATHI	-	II B.Sc.(CT)
G. VIGNESH	-	II B.Sc.(CT)

Table of contents

<i>S.No.</i>	<i>Title</i>	<i>Page No.</i>
1	BEST EXTERNAL HARD DRIVES	1
2	MACHINE LEARNING	2
3	WINDOWS 10'S NEW REPLACEMENTS FOR CONTROL PANEL FEATURES	3
4	AI APPS	4
5	VOICE	5
6	INVENTIONS THAT WILL SOON CHANGE THE WORLD	6
7	ARTIFICIAL INTELLIGENCE (AI) IN HEALTH CARE	7
8	HOW ARE INTELLIGENT APPS CHANGING OUR DAILY LIVES?	8
9	CHARACTERISTICS OF INTELLIGENT APPS	9
10	PADRONE RING - COOLEST MOUSE EVER	10
11	FACEBOOK INTRODUCE A NEW AI	11
12	ARTIFICIAL INTELLIGENCE	12
13	AI (ARTIFICIAL INTELLIGENCE)-ROBOTICS	13
14	CAPSULE ENDOSCOPY AND MODERN ARTIFICIAL PANCREAS	14
15	BLOCK CHAIN	15
16	TALK	16
17	PROMINENT SECTORS WHERE INTELLIGENT APPS CAN BE USED	17
18	DIGITAL MONEY	18
19	AI CAPABILITIES	19
20	COMPUTER MODEL CAN PREDICT HOW COVID-19 SPREADS IN CITIES	20
21	HYGIENE SMART BAND AND TEMPERATURE CHECKER	21
22	TOOLS TO LEAD A SMARTER LIFE	22
23	STRETCHING FABRIC ACROSS SKIN MAKES THE BRAIN THINK WE'RE TOUCHING DISTANT SURFACES	23
24	ROBOTIC PROCESS AUTOMATION OR RPA	24
25	ROBOTICS IN HEALTH CARE	25
26	A FEW INTELLIGENT APPS THAT REVOLUTIONIZE OUR DAILY LIVES	26
27	IOT LIQUID LEVEL MONITORING SYSTEM	27
28	CORONA ROBOT	28
29	SMART TRASH BIN	29

KONGU ARTS AND SCIENCE COLLEGE (AUTONOMOUS), ERODE.

DEPARTMENT OF COMPUTER TECHNOLOGY AND INFORMATION TECHNOLOGY

IT BULLETIN

DATE: 07.10.2020

BEST EXTERNAL HARD DRIVES

A hard drive is an important asset for anyone who spends a lot of time in the digital realm. Whether we need somewhere to download more games, a repository for all our family photos, or a secure place in which to store important documents, we can all use a little (or a lot of) extra storage. External hard drives are excellent, often cost-effective, solutions when our computer runs out of space.

External Hard Drives Vs The Cloud

Choosing between cloud storage and external hard drives, it really depends on preference. The cloud is typically more convenient, providing a reliable and safe option that allows to keep adding more storage. It also has the advantage of being accessible almost anywhere, allowing to sync and reach materials from services like Apple iCloud, Microsoft Dropbox, or Google Drive. But it may incur monthly fees for extra space, so putting everything on the cloud will be far more expensive in the long run. It's always best to look into the security info of the platform that we choose, too. External hard drives have the upper hand in putting information security in our hands. Hard drives also have a fixed cost instead of a recurring fee. However, if hard drive were to physically break, it may be difficult or impossible to get back the information.

Storage: For saving larger files, many smaller solid-state drive (SSD) models go up to one or two terabytes (TB). Gamers or professionals looking to store huge commercial documents may want a hard disk drive (HDD) model that holds up to 24 TB.

Speed: HDDs tend to run around 100 MB per second to 200 MBps with SSDs clocking about two times faster for an average of 400 MBps.

HDD: Hard disk drives are less expensive than SSDs but can store much more. The downside is they're physically much bigger. They can also be a bit more delicate if move the drive while it's in the process of reading or downloading files, it could damage the interior disks and make some of our information unreadable.

SSD: Solid-state drives are faster, smaller and tend to be more expensive. They usually cannot hold as much memory, but for most basic needs, they're more than adequate, many able to accommodate up to 5 TB. Some SSDs can even fit in the palm of our hand.

**SUBMITTED BY,
ABISHEK M
ARUNKUMAR E
II- B.Sc. (CT)**

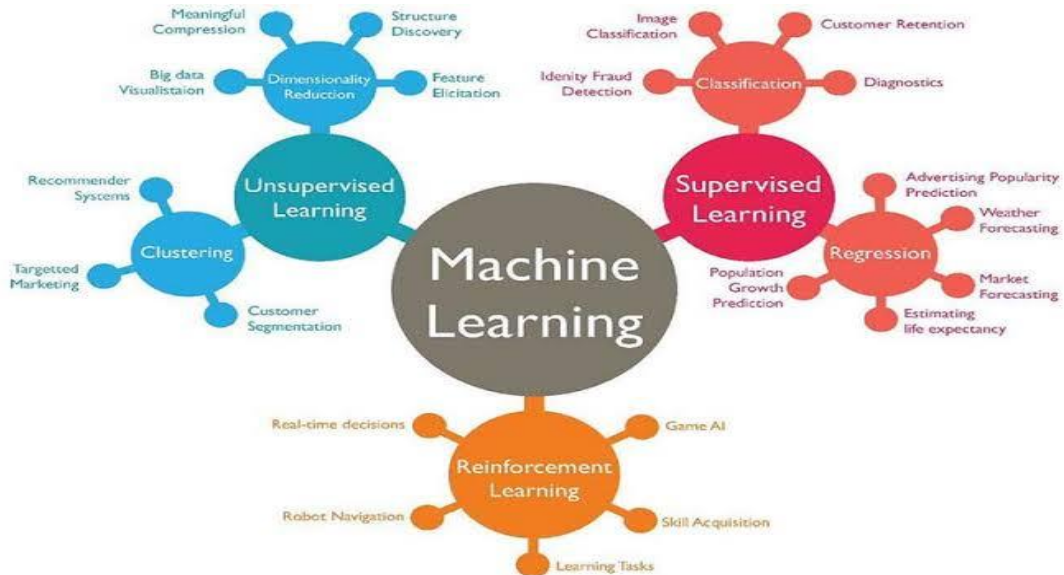
KONGU ARTS AND SCIENCE COLLEGE (AUTONOMOUS), ERODE.

DEPARTMENT OF COMPUTER TECHNOLOGY AND INFORMATION TECHNOLOGY

IT BULLETIN

DATE: 08.10.2020

MACHINE LEARNING



Machine Learning is a subset of AI, we also have subsets within the domain of Machine Learning including neural networks, natural language processing (NLP) and deep learning. Each of these subsets offers an opportunity for specializing in a career.

Machine Learning is rapidly being deployed in all kinds of industries, creating a huge demand for skilled professionals. The Machine Learning market is expected to grow to \$8.81 billion by 2022. Machine Learning applications are used for data analytics, data mining, and pattern recognition. On the consumer end, Machine Learning powers web search results, real-time ads and network intrusion detection to name only a few of the many tasks it can do.

SUBMITTED BY,
ARAVIND E
BALAJI S
II- B.Sc. (CT)

KONGU ARTS AND SCIENCE COLLEGE (AUTONOMOUS), ERODE.

DEPARTMENT OF COMPUTER TECHNOLOGY AND INFORMATION TECHNOLOGY

IT BULLETIN

DATE: 09.10.2020

WINDOWS 10'S NEW REPLACEMENTS FOR CONTROL PANEL FEATURES

- Microsoft has decided to conceal some applets (pages) of the traditional Control Panel in the feature releases of Windows 10.
- With Windows 8, Microsoft introduced a beginner-friendly and modern Settings app. The new Settings app is good enough for personalization of Windows 10 as it gives you access to background photos, themes, accents, fonts, audio etc...
- In general, this new interface is not adequate for advanced configurations. Control Panel has always offered more options than the modern replacements, including the Settings app. This is mainly due to two reasons: limited UWP APIs and Microsoft's inability to migrate the legacy components.
- With upcoming updates, Microsoft is taking another step to kill off some pages in the Control Panel.

SYSTEM APPLLET

- In Windows 10 October 2020 Update, Microsoft is removing the 'System' applet of Control Panel which gives you an overview of your system specs such as the processor and amount of RAM you have installed.
- The System page of the Control Panel now redirects you to Settings app and you cannot access the above screen in future versions of Windows.
- The good news, at least, is that Microsoft has improved the Settings app. In fact, the 'System' page replacement is a lot more useful.
- The 'About' page which is going to replace the 'System' page comes with all the information available in the Control Panel. It also includes a new button to copy your system specs including the OS build number.

STORAGE SPACES

- In freshly released preview builds, Microsoft is testing a flag that will enable access to a modern version of the Storage Spaces feature.
- For those unaware, Storage Spaces is a feature that lets you create a 'Pool' where the multiple disks of different sizes and interface are grouped together. Windows 10 sees Pool (Storage Spaces) as one large disk.
- The feature is currently available in the Control Panel only but it's also coming to the Settings app in a feature release of Windows 10.

**SUBMITTED BY
BASKER V
BHARANI M
II- B.Sc. (CT)**

KONGU ARTS AND SCIENCE COLLEGE (AUTONOMOUS), ERODE.

DEPARTMENT OF COMPUTER TECHNOLOGY AND INFORMATION TECHNOLOGY

IT BULLETIN

DATE: 12.10.2020

AI APPS

Google Assistant

Google Assistant i.e. the AI-enabled, voice-powered virtual assistant from Google has made significant strides. It's considered as one of the more advanced virtual assistants. Google has entered into partnerships with several companies and made Google Assistant available on a wide range of devices e.g. smartphones, fridges, headphones and cars.

Google Assistant supports both voice or text entry and it uses natural language processing. It offers various services, e.g., voice commands, voice searching, voice-activated device control, helping with tasks, finding information online, sending reminders, making appointments, translating in real-time etc.,

Google has expanded the reach of Google Assistant significantly and it now works with 10,000 devices across 1,000 brands. This includes iPhones and indications are that Google will partner with more brands. Its active user base is increasing noticeably.

We need to install and configure Google Assistant on Windows, Mac and Linux PCs since it's not readily available on these.

Socratic

Socratic is an AI-powered app to help students with math and other homework and Google has recently disclosed that it has acquired this app. Students can take pictures using their phone camera, subsequently, Socratic uses its AI capabilities to provide visual explanations for the concepts that students need to learn.

Socratic uses text and speech recognition and it can support learning science, math, literature, social studies, etc. This app is available on Android and iOS, and it's compatible with the iPad.

The statistics from Google Play shows over 5 million downloads at the time of writing. The Socratic iOS app enjoys high popularity too, as the high rating in the Apple App Store indicates.

**SUBMITTED BY
BHAVAN M
CHANDRU M
II- B.Sc. (CT)**

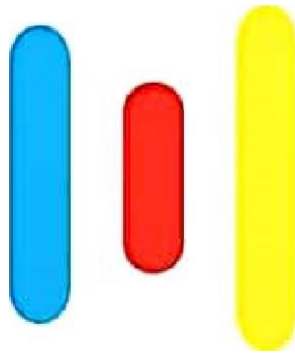
KONGU ARTS AND SCIENCE COLLEGE (AUTONOMOUS), ERODE.

DEPARTMENT OF COMPUTER TECHNOLOGY AND INFORMATION TECHNOLOGY

IT BULLETIN

DATE: 13.10.2020

VOICE



The future of technologies in 2020 will remain incomplete without Voice. The time when the only relation between voice and technology used to be when we used to talk on our mobile devices is long gone. In fact, the current time of text messaging being the frontrunner in e-commerce and a prevalent part of users' interaction with their devices, is also slowly passing us by. The Importance of voice search is unignorable.

While Google Action SDK and Integration of Siri into apps have already acquainted us with the power of voice in conducting everyday tasks, the applications have still remained very limited. But the future that it has set for itself, has placed Voice based applications in the list of technology trends for 2020.

The near future with a set of new upcoming technology trends will find itself conducting more operations with a voice command. In only a matter of time, every device that surrounded ourselves will be able to function and perform actions with a command of our voice. Mixed with Natural Language Processing, Artificial Intelligence, and Machine Learning, voice-based applications will find a greater place in users' everyday activities.

SUBMITTED BY
GOUSIKA A T
GOKILAVANI S
II- B.Sc. (CT)

KONGU ARTS AND SCIENCE COLLEGE (AUTONOMOUS), ERODE.

DEPARTMENT OF COMPUTER TECHNOLOGY AND INFORMATION TECHNOLOGY

IT BULLETIN

DATE: 19.10.2020

INVENTIONS THAT WILL SOON CHANGE THE WORLD

A "smart" coat

Smart Parka is a dream for those who constantly lose their gloves because they are integrated into the "smart" coat along with a scarf and cap. The length of the coat can be altered, and there are numerous gadget pockets inside. There is also a geotag inside which can be useful if the coat is lost or stolen. Of course, it's very warm as it was specially created for cold Canadian winters.

A pocket cinema

This device that looks like a soda can is a projector and wireless loudspeaker. You can have your cinema wherever you want: on your bedroom ceiling or on a wall. Capsule's battery runs for 2.5 hours in cinema mode and 40 hours in loudspeaker mode.

A stain-repellant shirt

Foosmet is a shirt made from a hydrophobic cotton material. It lets air through, but it repels any liquids — from water to ketchup. The main thing is you don't need to iron it as it hardly ever gets wrinkled.

A pickpocket-proof backpack

LocTote looks like a regular backpack but it's actually a soft vault for your stuff. It can't be cut or set on fire. It can only be opened using a lock and you can even leave it unattended. It's a very useful thing for traveling that will disappoint all the pickpockets of the world.

An electronic luggage tag

Mu Tag is a little electronic tag that is attached to things which we don't want to lose: a bag, keys, a dog collar, a folder with documents etc., In case of loss or theft, this little gizmo can help to trace the position via an app.

**SUBMITTED BY
GOKULNATH V
GOWTHAM K
II- B.Sc. (CT)**

KONGU ARTS AND SCIENCE COLLEGE (AUTONOMOUS), ERODE.

DEPARTMENT OF COMPUTER TECHNOLOGY AND INFORMATION TECHNOLOGY

IT BULLETIN

DATE: 20.10.2020

ARTIFICIAL INTELLIGENCE (AI) IN HEALTH CARE

Artificial intelligence, or AI is tech designed to mimic the human cognitive processes. This form of deep learning utilizes neural networks with multiple layers which can analyze large volumes of complex data.

AI Market Projections

The global AI market is projected to increase from \$21.46 billion in 2018 to \$190.61 billion by 2025. The AI healthcare market is predicted to grow from \$667.1 million in 2016 to \$7,988.8 million in 2022.

How it's Used in Health Care

There are several AI applications already in use. This is partially due to Google DeepMind Health which builds AI and mobile tools that mine medical data to improve how hospitals and health care pros deliver patient care.

Together with London's Moorfields Eye Hospital, DeepMind is researching how an AI algorithm trained with thousands of retinal scans can analyze eye scans more quickly, accurately, and efficiently than human specialists. DeepMind is also working with London-based UCLH to research how AI technology can efficiently identify cancerous and health tissues on CT and MRI scans of patients with head and neck cancer for more targeted radiotherapy treatment.

Atomwise uses deep learning neural networks to identify effective pre-clinical drug candidates for chemists to discover and develop drugs more precisely and accurately. The Atomwise AI technology analyzes billions of chemical compounds to optimize the discovery of effective compounds, greatly reducing research and discovery time.

**SUBMITTED BY
GOWRI G
HARINI SHAKTHI K
II- B.Sc. (CT)**

KONGU ARTS AND SCIENCE COLLEGE (AUTONOMOUS), ERODE.

DEPARTMENT OF COMPUTER TECHNOLOGY AND INFORMATION TECHNOLOGY

IT BULLETIN

DATE: 21.10.2020

HOW ARE INTELLIGENT APPS CHANGING OUR DAILY LIVES?

Smartphones have transformed the way we work, play and communicate and what makes smartphones irresistible is the wonderfully-functional applications that we download in these devices. These apps unlock the full potential of our smart device and make our lives worthwhile as we can manage our personal/professional relations/activities in an effectual, engaging and interactive way. Intelligent apps (I-apps) are the next generation of apps that make our everyday tasks and experiences remarkably well.

Thanks to Intelligent apps, our smartphones recognize speech, help us make confident decisions, and enable us to understand unknown languages through translation!

What are Intelligent Apps?

Intelligent apps are pieces of software that leverage different Artificial Intelligence (AI) components such as Machine Learning (ML), Natural Language Processing (NLP), data analytics, deep learning, robotics, general intelligence, expert systems etc.,

The AI-powered algorithm helps these apps to take advantage of historical and real-time data to facilitate key user decisions. The smart integration and use of predictive and prescriptive analytics, customer data, and product insights help these apps to engage in continuous learning method, and hence the following benefits.

Benefits

- Offer predictions and decisions to deliver super-rich and custom-made experiences for users.
- Offer valuable solutions based on users' history of interactions with brands, people and machines.
- Deliver personalized and contextual content to facilitate constant engagement.
- Analyse multiple data sources to deliver valuable insights and help in automating simple routine tasks without specifically waiting for user commands.

**SUBMITTED BY
GOWTHAM P
HARI PRASANTH S
II- B.Sc. (CT)**

KONGU ARTS AND SCIENCE COLLEGE (AUTONOMOUS), ERODE.

DEPARTMENT OF COMPUTER TECHNOLOGY AND INFORMATION TECHNOLOGY

IT BULLETIN

DATE: 22.11.2020

CHARACTERISTICS OF INTELLIGENT APPS

In simple terms, intelligent apps use modern technologies such as artificial intelligence and machine learning and some part of reinforcement learning. These apps are not intended to perform the basic operation, rather used to perform complex tasks that can be automated with continued usage, as the app learns from the operational behavior of the users. These apps can provide personalized user experience combined with the adaptability and richness. Intelligent apps use to power of combined data organization, user predictability, prescriptive analytics, consumer data, and operational data, thus providing the users a very rich experience.

Characteristics of Intelligent Apps

- 1. Adaptive:** Since the app will be used by thousands of users, the app is expected to be adaptive. Every user is different in their use, adaptability of the app plays a very crucial role. The use of machine learning helps the app to adapt to a common point where users share some of the similarities in their operations.
- 2. Suggestive & Decision-Oriented:** While working with a large number of users, the intelligent apps does not wait for the user to decide, rather helps the users to decide what suits best for them, using the user interaction and artificial intelligence. It gives prompt to the users, to opt for a certain decision, but the final decision remains with the user. But yes, these apps can heavily impact on how users choose their decision and interact with the app.
- 3. Data Powered:** Be it online data or offline data, intelligent apps are heavily dependent on data. Data is very essential for intelligence apps, as data serves as the warehouse of information.
- 4. Responsive to Inputs:** The inputs from the users are the rich source of information that the app can get. The inputs can be either in the form of text, photos or voices. The app has to be responsive to the inputs, as these help in identifying the user and behavior.
- 5. Cross-Platform Operation:** The app also should have the ability to understand the common responses and process the desired output. Also, some of the features require cross-platform operations which can help the app to understand the user better when working with cross platforms. The role of artificial intelligence comes into the picture, which organizes and processes the output in a way that the users feel the same experience while working on cross platforms.

**SUBMITTED BY,
HARIPRIYA.K S
KANIMOZHI M
II- B.Sc. (CT)**

KONGU ARTS AND SCIENCE COLLEGE (AUTONOMOUS), ERODE.

DEPARTMENT OF COMPUTER TECHNOLOGY AND INFORMATION TECHNOLOGY

IT BULLETIN

DATE: 23.10.2020

PADRONE RING - COOLEST MOUSE EVER



Three founders, Marc Speck, Nicolas Richtli and Thomas Stauffer have introduced a prototype of the Padrone Ring, a reinvented mouse designed to bring a new user experience. Easily control our computer using just our finger with the Padrone Ring Wearable Ring Mouse. Featuring a stylish design, this device modernizes the way we interact with our computer. Designed to replace our existing mouse, Padrone follows our index finger movement, turning any work desk into a limitless touchpad.

Padrone's finger ring replaces the computer mouse. It works just like the touchpad on our laptop, but we can use it on any table, on our lap or any surface. It connects via Bluetooth with computer, so no software installation required just slide it on and connect! It is waterproof and weight only 8 grams.

**SUBMITTED BY,
JAISHANTHOSH S K
JAYAKANTH S
II- B.Sc. (CT)**

KONGU ARTS AND SCIENCE COLLEGE (AUTONOMOUS), ERODE.

DEPARTMENT OF COMPUTER TECHNOLOGY AND INFORMATION TECHNOLOGY

IT BULLETIN

DATE: 27.10.2020

FACEBOOK INTRODUCE A NEW AI

Facebook had displayed warnings on more than 180 million pieces of content viewed on Facebook by people in the US that were debunked by third-party fact checkers between March 1 and U.S. Election Day 2020.

Facebook had launched new artificial intelligence (AI)-powered systems to help detect misinformation on its platform. The systems rely on several technologies including ObjectDNA, unlike typical computer vision tools, which look at the entire image in order to understand the content, ObjectDNA focuses on specific key objects within the image while ignoring background clutter. This allows us to find reproductions of the claim that use pieces from an image that've already flagged, even if the overall pictures are very different from each other.

Facebook noted in a blog post. The California-based technology company's AI system also uses the 'LASER' cross-language sentence-level embedding which helps evaluate semantic similarity of sentences. It works for content containing either text or images or both.

Facebook credited its AI tools stating that they helped flag likely problems for review and automatically find new instances of previously identified misinformation. To apply warning labels, the company deployed SimSearchNet++, an improved image matching model that is trained using self-supervised learning to match variations of an image. SimSearchNet++ is resilient to a wider variety of image manipulations such as crops, blurs, and screenshots, making it crucial with a visuals first platform such as Instagram. Facebook also previously developed a set of systems to predict when two pieces of content convey the same meaning even though they look very different.

**SUBMITTED BY,
JEEVANANDHAM D
JOTHISWARAN P
II- B.Sc. (CT)**

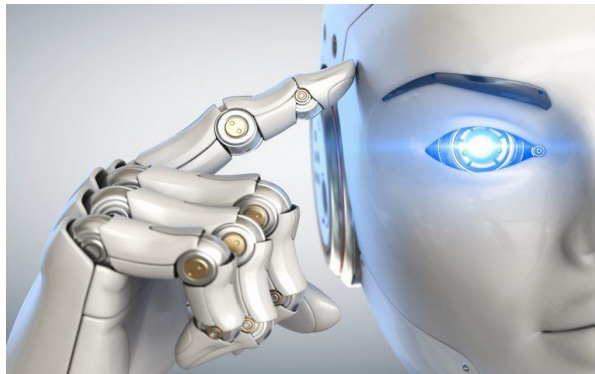
KONGU ARTS AND SCIENCE COLLEGE (AUTONOMOUS), ERODE.

DEPARTMENT OF COMPUTER TECHNOLOGY AND INFORMATION TECHNOLOGY

IT BULLETIN

DATE: 28.10.2020

ARTIFICIAL INTELLIGENCE



Artificial intelligence (AI) is the technology used for equipping computer systems with the ability to make decisions like humans. Being one of the trending technologies, when AI programs are fed to systems, the aim is to mimic human intelligence for performing complex tasks such as pattern recognition, speech recognition, weather forecast and medical diagnosis.

AI is used in navigation based applications like Uber, voice assistants like Siri, video streaming services like Netflix, IoT devices and in search engines like Google and Bing. AI helps in automating tasks such as traffic, scheduling trains, making business predictions and designing job.

The sad fact is that AI might wipe out more than 23 million jobs by the same time frame. AI will create jobs in areas such as testing, support, maintenance, programming and data science. Software developers who know AI earn much more than developers who don't. So, learning AI will help secure jobs such as Machine Learning, Engineer Data Scientist, Computer Vision Engineer, Business Intelligence Developer, Data Analyst etc.,

SUBMITTED BY
KESAVAN J
KHAZHIM HUSSAIN S S M
II- B.Sc. (CT)

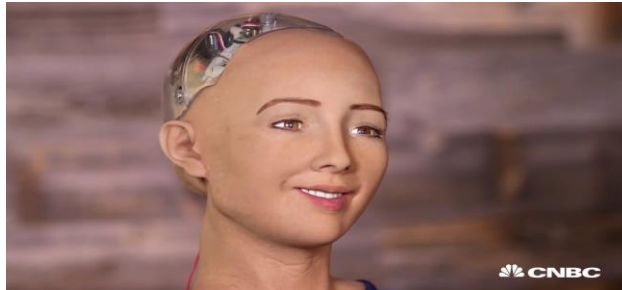
KONGU ARTS AND SCIENCE COLLEGE (AUTONOMOUS), ERODE.

DEPARTMENT OF COMPUTER TECHNOLOGY AND INFORMATION TECHNOLOGY

IT BULLETIN

DATE: 29.10.2020

AI (ARTIFICIAL INTELLIGENCE)-ROBOTICS



Sophia-Name of Robot

Hanson Robotics' most advanced human-like robot, Sophia, personifies our dreams for the future of AI. As a unique combination of science, engineering, and artistry, Sophia is simultaneously a human-crafted science fiction character depicting the future of AI and robotics, and a platform for advanced robotics and AI research.

The character of Sophia captures the imagination of global audiences. She is the world's first robot citizen and the first robot Innovation Ambassador for the United Nations Development Programme. Sophia is now a household name, with appearances on the Tonight Show and Good Morning Britain, in addition to speaking at hundreds of conferences around the world.

Sophia is also a framework for cutting edge robotics and AI research, particularly for understanding human-robot interactions and their potential service and entertainment applications. For example, she has been used for research as part of the Loving AI project, which seeks to understand how robots can adapt to users' needs through intra and interpersonal development.

In some ways, it is a human-crafted science fiction character depicting where AI and robotics are heading. It also utilizes cutting edge machine perception that allows the robot to recognize human faces, see emotional expressions and recognize various hand gestures. It can estimate our feelings during a conversation, and try to find ways to achieve goals with you. It has its own emotions too, roughly simulating human evolutionary psychology and various regions of the brain. It also has IK solvers and path planning for controlling its hands, gaze and locomotion strategy.

**SUBMITTED BY,
KISHORE RAJAN N
LOGESH K(11/05/2002)
II- B.Sc. (CT)**

KONGU ARTS AND SCIENCE COLLEGE (AUTONOMOUS), ERODE.

DEPARTMENT OF COMPUTER TECHNOLOGY AND INFORMATION TECHNOLOGY

IT BULLETIN

DATE: 02.11.2020

CAPSULE ENDOSCOPY AND MODERN ARTIFICIAL PANCREAS

Capsule endoscopy

Advancements in light emitting electrodes, image sensors and optical design in the '90s led to the emergence of capsule endoscopy, first used in patients in 2001. The technology uses a tiny wireless camera the size of a vitamin pill that the patient swallows.

As the capsule traverses the digestive system, doctors can examine the gastrointestinal system in a far less intrusive manner. Capsule endoscopy can be used to identify the source of internal bleeding, inflammations of the bowel ulcers and cancerous tumors.

Modern artificial pancreas

More formally known as closed-loop insulin delivery system, the artificial pancreas has been around since the late '70s, but the first versions were the size of a filing cabinet. In recent years, the artificial pancreas, used primarily to treat type 1 diabetes became portable. The first artificial pancreas (the modern, portable kind) was approved for use in the United States in 2016.

The system continuously monitors blood glucose levels, calculates the amount of insulin required and automatically delivers it through a small pump. British studies have shown that patients using these devices spent more time in their ideal glucose-level range. In December 2019, the FDA approved an even more advanced version of the artificial pancreas called Control-IQ, developed by UVA.

**SUBMITTED BY,
KOWSALYA M
MEHANETHRA K S
II- B.Sc. (CT)**

KONGU ARTS AND SCIENCE COLLEGE (AUTONOMOUS), ERODE.

DEPARTMENT OF COMPUTER TECHNOLOGY AND INFORMATION TECHNOLOGY

IT BULLETIN

DATE: 03.11.2020

BLOCK CHAIN



The rate at which Block chain is growing has placed it at a pivotal point in the list of top technology trends 2020. Block chain technology is definitely here to stay. While prevalent in only a handful of industries right now, by 2020 the world will see its mass adoption.

A number of new elements and processes will be added in the present day's most disruptive technology. While there is a fair chance that ICOs won't stick around that long as might see a fast death because of the stringent regulations.

Cryptocurrencies, the important Block chain element will also find itself divided in a number of currencies and would be floated in the market just like fiat currencies. People who are currently unaware of what Block chain and Cryptocurrencies and where they can spend them will start doing their everyday transactions with them – The future will see Block chain development solution being explored beyond Cryptocurrencies.

**SUBMITTED BY,
LOGESH K (29-08-2002)
LOGESH S
II- B.Sc. (CT)**

KONGU ARTS AND SCIENCE COLLEGE (AUTONOMOUS), ERODE.

DEPARTMENT OF COMPUTER TECHNOLOGY AND INFORMATION TECHNOLOGY

IT BULLETIN

DATE: 04.11.2020

TALK



Speech To Language – Breathing Translates To Spoken Communication. A 16 yr old Indian boy, Arsh Shah Dilbagi invented TALK, an AAC - augmentative and alternative communication device - that converts breaths into synthesized sentences or speak-out commands and phrases. This patent-pending technological invention has the potential to change the lives of people with developmental disabilities and speech impairments.

Dilbagi was a finalist at the Google 2014 Science Fair and the portable invention will hopefully be on the market in the near future. After all the odds, India and all the global Indians prove from time to time that we have the talent & the power to change the world or at least make it a better place to live in.

**SUBMITTED BY,
MOHINTH B
MUTHU ARUN M
II- B.Sc. (CT)**

KONGU ARTS AND SCIENCE COLLEGE (AUTONOMOUS), ERODE.

DEPARTMENT OF COMPUTER TECHNOLOGY AND INFORMATION TECHNOLOGY

IT BULLETIN

DATE: 05.11.2020

PROMINENT SECTORS WHERE INTELLIGENT APPS CAN BE USED

Intelligent apps are so powerful that every sector can use these apps, but the major sectors which can use the advantage of such apps are as below:

1. Healthcare Sector: One of the most important and evergreen sectors, which faces new challenges every single day, the healthcare sector can surely take advantage of smart apps. Many AI-based learning models are being used to train machines about the sector and also many low-level cures are being done using the solutions provided by artificial intelligence. With the onset of the new decade, healthcare and intelligent apps are a perfect match for each other.

2. Education Sector: Education in its form has already started to use the benefits of intelligent apps. Due to more focus on digital education, the market is set to reach high numbers in terms of income and growth. Intelligent apps can be used to assess students and understand their behavior and learning patterns upon which a better and personalized learning model can be introduced in the education system. Intelligent apps can be used to provide learning assistance based on an individual's learning ability.

3. Finance Sector: The finance sector is one of the largest sectors to target for any developer or company which makes intelligent apps. Finance, when combined with technology, is called, Fin-tech. With the help of smart apps, the financing sector can reap rewards of potentially high profit and stabilized market. The intelligent apps can accurately predict the changes in the market based on the ongoing as well as past events, analyzing the companies and their profit ratio.

4. Food Businesses: Smart apps are heavily used by users to order foods, book a restaurant, checking the nearest restaurants and not only that these apps also suggest users the meals based on their previous choices and their interaction with the app. The mode of marketing and user acquisition is completely changed, not only the app companies, but restaurants are also making profits and acquiring customers from delivering food online.

5. Hospitality Sector: Using intelligent apps in the right way can help the hospitality sector in taking the right steps to deliver a better experience to the customers. Smart apps can monitor the way guests behave, their needs, & they can predict the adequate personalized experience and can use better ways of marketing the products and services.

**SUBMITTED BY,
NITHYASHREE V
PRAKATHI R
II- B.Sc. (CT)**

DIGITAL MONEY



What Is Digital Money?

Any means of payment that exists purely in electronic form. Digital money is not a tangible asset like cash or other commodities like gold or oil. It is accounted for and transferred using computers. The most successful and widely-used form of digital money is the cryptocurrency Bitcoin. Digital money is exchanged using technologies such as smartphones, credit cards and online cryptocurrency exchanges. In some cases, it can be transferred into physical cash, for example by withdrawing cash from an ATM

- Digital money is a currency that exists purely in digital form.
- Digital money can include cryptocurrencies, but it is not limited to them. Most of the digital money owned in the world is owned by banking institutions.
- Banks have been able to keep their cost-of-business lower thanks to digital money since they do not need to pay rent on as many physical locations or keep paying for retail employees they don't need.

**SUBMITTED BY,
PARTHIBAN M
PAVITHRAN P
II- B.Sc. (CT)**

KONGU ARTS AND SCIENCE COLLEGE (AUTONOMOUS), ERODE.

DEPARTMENT OF COMPUTER TECHNOLOGY AND INFORMATION TECHNOLOGY

IT BULLETIN

DATE: 09.11.2020

AI CAPABILITIES



Artificial Intelligence has been continuing to make its place in the list of top technology trends since quite some years. And now has found a place in 2020 technology predictions as well.

Computers are now capable of learning about the world in the same way as us humans. This AI capabilities have been possible because of the enormous increase in computing power and data. It's this phenomenal explosion in data, which has enabled AI to advance at a lightning speed since the past couple of years; greater the data an AI has, the faster it would be able to learn and more precise it becomes.

The speed at which AI is growing will prepare it to undertake more human tasks by 2020. Its present-day tasks of enabling computers to read (studying messages and reports), see (through facial recognition), listen (by enabling Amazon Echo to answer our command), speak (Siri being able to give you an answer) and even record emotions (through affective computing) will help AI become a technology that no longer needs human intervention to aid its learning. The mass usage of AI in the world, is leading to its adoption a number of sectors: Customer Experience, Designing, Healthcare, Fintech.

**SUBMITTED BY,
PRADEEP U
PONGUHAN S
II- B.Sc. (CT)**

KONGU ARTS AND SCIENCE COLLEGE (AUTONOMOUS), ERODE.

DEPARTMENT OF COMPUTER TECHNOLOGY AND INFORMATION TECHNOLOGY

IT BULLETIN

DATE: 10.11.2020

COMPUTER MODEL CAN PREDICT HOW COVID-19 SPREADS IN CITIES



A team of researchers has created a computer model that accurately predicted the spread of COVID-19 in 10 major cities this spring by analyzing three factors that drive infection risk: where people go in the course of a day, how long they linger and how many other people are visiting the same place at the same time.

The study, published in the journal *Nature*, merges demographic data, epidemiological estimates and anonymous cellphone location information, and appears to confirm that most COVID-19 transmissions occur at "superspreader" sites like full-service restaurants, fitness centers and cafes where people remain in close quarters for extended periods. The researchers say their model's specificity could serve as a tool for officials to help minimize the spread of COVID-19 as they reopen businesses by revealing the tradeoffs between new infections and lost sales if establishments open, say, at 20 percent or 50 percent of capacity.

**SUBMITTED BY,
SANJAI R
PRAVEEN M
II- B.Sc. (CT)**

KONGU ARTS AND SCIENCE COLLEGE (AUTONOMOUS), ERODE.

DEPARTMENT OF COMPUTER TECHNOLOGY AND INFORMATION TECHNOLOGY

IT BULLETIN

DATE: 11.11.2020

HYGIENE SMART BAND AND TEMPERATURE CHECKER

Hygiene Smart Band

The Seattle based company, **Slightly Robot**, owned by two brothers and a friend, launched a wearable device in a wristband. The gadget was made to keep people away from frequent skin-picking and nail-biting.

In December 2019, when the company got the news of Covid-19 hitting their shores, they quickly redesigned their device to a brand new invention, actually another smartband, the Immutouch.

The band was coded in a way that the users were alerted by a sound whenever they tried touching their face. The company believes that Immutouch is a big breakthrough, especially at this time when people are advised to maintain serious hygiene. Given the fact that they had the set up ready, shaping the device to fight Covid-19 wasn't much difficult.

Temperature Checker

Scylla, the US company that specialises in AI tools and technology makes detection tools to track possession of ammunition by entrants in universities and cafes.

When the news of Covid-19 broke out, they quickly made small upgrades to their software enabling it to start recording human temperature. In its new form, the device sends alerts if it notices someone having fever.

The idea was well received by both private and public institutions as they went ahead with their preparation for Covid-19. In fact, many have already placed orders asking the company to install their device in their premises as soon as possible.

**SUBMITTED BY,
PRIYADHARSHINI B
SANDHIYA A
II- B.Sc. (CT)**

KONGU ARTS AND SCIENCE COLLEGE (AUTONOMOUS), ERODE.

DEPARTMENT OF COMPUTER TECHNOLOGY AND INFORMATION TECHNOLOGY

IT BULLETIN

DATE: 12.11.2020

TOOLS TO LEAD A SMARTER LIFE

Casual

Casual helps to handle tasks and projects in a new way: the app is amazingly visual. You plan your tasks just by drawing them as a flowchart. Casual is a unique app that helps visualize dependencies between tasks. You don't have to click on tabs to find out the certain aspects of projects such as who is doing which tasks.

Fooducate

Why is it that good food looks so terrible and junk food looks so good? With this free app, you can find the good food that actually tastes good, so you can eat healthy and like it. Scan items for nutritional information, and find out which foods are the best for you, the best buys, and of course, the most enjoyable.

Atlas by Collins

The Atlas by Collins lets you travel all around the world, with a flick of your finger. As well as seeing new places, you can also discover incredible information about the world's most important places and artifacts. Learn about the world using nine globes, a variety of maps and other fun tools for just \$0.99.

iBooks

Reading is a means of thinking with another person's mind; it forces you to stretch your own. But you may think you don't have time to read. Do you ride the train to work? Read on the train. Do you have breaks? Read on your breaks. There really is no excuse when you have the free iBooks app with a huge library that is constantly growing.

Lumosity Mobile

Train your brain to become smarter, and have a blast doing it! Side effects of using this app include improved memory, a longer attention span, and better work performance through fun games and puzzles, and it doesn't cost anything to use.

**SUBMITTED BY,
SATHISH M
SOUNDAR K
II- B.Sc. (CT)**

KONGU ARTS AND SCIENCE COLLEGE (AUTONOMOUS), ERODE.

DEPARTMENT OF COMPUTER TECHNOLOGY AND INFORMATION TECHNOLOGY

IT BULLETIN

DATE: 13.11.2020

**STRETCHING FABRIC ACROSS SKIN MAKES THE BRAIN THINK
WE'RE TOUCHING DISTANT SURFACES**

Long-distance communication may benefit from a robot's touch. and that may come in the form of a new gadget developed by engineers in Australia.Haptic is a term for things that relate to one's sense of touch. The new haptic device slips over someone's finger like the tip of a glove. By stretching fabric, it interacts with the skin to simulate touching or feeling something. This new device makes it possible for people to feel something that isn't actually at their fingertips.

Its inventors see a variety of potential uses. "A surgeon can wear our gloves and touch a patient far away," says Thanh Nho Do. He's an engineer at the University of New South Wales in Australia who led design of the new skin stretch device, or SSD. "In the deep sea or in space, a robot can pick up things. This can let you feel [what the robot touches]. When a person has an artificial limb, they can wear this and feel [what it touches]."

Scientists have been working on haptic devices for years, but touch is a delicate sense, It's unlike vision, which can be communicated over distances with cameras and monitors. It's also unlike hearing where sounds can be relayed to the ears with microphones and speakers.

In recent years, scientists have been finding new ways to build and improve haptic devices. Some have used vibration. (The button on a smart phone, for example, uses a small vibration to simulate the pressing of a button.) Others use motors to physically push on a user's skin.

. They realized that the brain gets haptic information when something moves across the skin. With that idea in mind, they wanted to design something that could slide and stretch. Their SSD is made from a piece of fabric into which tiny, fluid-filled tubes have been sewn. Those tubes all connect to a small disk, called a tactor. That tactor has a tiny motor that allows it to move short distances within a small area. In fact, it can move in all three dimensions. The moving tactor tugs on the tiny tubes. As the tubes expand and contract, they stretch the fabric across someone's skin. In this way, they act like artificial muscles.

**SUBMITTED BY,
SHANMATHI M
SHOBICA R
II- B.Sc. (CT)**

KONGU ARTS AND SCIENCE COLLEGE (AUTONOMOUS), ERODE.

DEPARTMENT OF COMPUTER TECHNOLOGY AND INFORMATION TECHNOLOGY

IT BULLETIN

DATE: 16.11.2020

ROBOTIC PROCESS AUTOMATION OR RPA



Like AI and Machine Learning, Robotic Process Automation, or RPA, is another technology that is automating jobs. RPA is the use of software to automate business processes such as interpreting applications, processing transactions, dealing with data, and even replying to emails. RPA automates repetitive tasks that people used to do.

These are not just the menial tasks of a low-paid worker: up to 45 percent of the activities done can be automated, including the work of financial managers, doctors and CEOs.

Although Forrester Research estimates RPA automation will threaten the livelihood of 230 million or more knowledge workers or approximately 9 percent of the global workforce, RPA is also creating new jobs while altering existing jobs. McKinsey finds that less than 5 percent of occupations can be totally automated but about 60 percent can be partially automated.

**SUBMITTED BY,
SNEHA S
SOUNDARIYA B
II- B.Sc. (CT)**

KONGU ARTS AND SCIENCE COLLEGE (AUTONOMOUS), ERODE.

DEPARTMENT OF COMPUTER TECHNOLOGY AND INFORMATION TECHNOLOGY

IT BULLETIN

DATE: 17.11.2020

ROBOTICS IN HEALTH CARE

Robotics is the design, engineering and use of robotic machines to perform partially- or fully-automated physical cognitive functions.

Robotics Market Projections

The global robotics market is predicted to increase from \$71 billion in 2015 to \$135.4 billion in 2019, an annual growth rate of 17%. The market revenue for robots in health care is also projected to grow from \$1.7 billion in 2016 to \$2.8 billion in 2021.

How it's Used in Health Care

One of the robotic machines on the market today is da Vinci, a robot-assisted, surgeon-controlled surgical system. The system uses minimally-invasive surgical instruments and 3D high-definition visuals to enhance accuracy and control.

Wearable robots are also poised to proliferate onto the market. These devices such as robot prostheses to replace missing limbs or robot exoskeletons to aid paralyzed people are used to rehabilitate or enhance a patient's physical capabilities.

Robotics can also work in conjunction with health informatics to enable autonomous collection of data, which can provide accurate and continual data for health informatics pros across numerous health care areas, like surgery, drug delivery, and cognitive rehabilitation and patient management.

SUMMITTED BY
SRI SANJEEVI T
SOUNDER VIGNESH D
II- B.Sc. (CT)

KONGU ARTS AND SCIENCE COLLEGE (AUTONOMOUS), ERODE.

DEPARTMENT OF COMPUTER TECHNOLOGY AND INFORMATION TECHNOLOGY

IT BULLETIN

DATE: 18.11.2020

A FEW INTELLIGENT APPS THAT REVOLUTIONIZE OUR DAILY LIVES

1. Alexa, Siri, and Google Assistant

Amazon, Apple, and Google's digital voice assistants are great examples of intelligent apps that combine natural language generation, processing and machine learning. These digital voice assistants have made our lives super-easy and convenient as they give updates about weather, traffic, adjust a smart LED, coordinate meetings, and make your moments lighter by telling jokes and playing music. These virtual assistants converse sounding like a human.

2. Ada Health

Ada Health is an AI-powered 'doctor in your pocket, app that helps users to understand their health and navigate to the most suitable care. The app launched a fresh method to personalized health, reinforced by sophisticated AI, human medical know-how and the power of mobile technology. The app has a conversational interface. It asks simple and relevant questions and compares the answers to its rich data of similar cases to deliver custom-made responses to the unique health profiles. It ultimately helps you find the best possible explanations for your symptoms. It guides users to take the most appropriate care, and track and manage their health.

3. ELSA

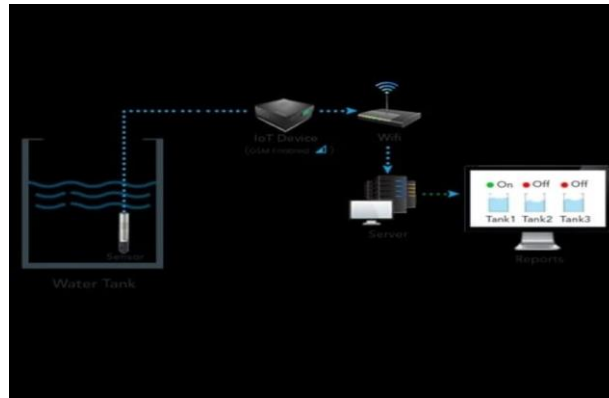
ELSA (English Language Speech Assistant) is an AI-powered app that helps to improve English speaking skills with the right pronunciation and accent. The app gives professional training with a series of exercises and teaching material. Powered by speech recognition technology, it understands our native language and teaches how to speak like native English speakers based on a series of exercises and teaching material. By simply inputting a word we can learn its right pronunciation.

4. Seeing AI

Seeing AI is an AI application developed by Microsoft. It's a talking camera app for the visually-impaired. The app helps the blind and low-vision community around the world to know about their surroundings through the cameras on their smartphones. Its computer vision narrates the visual world by reading out short text and documents and by describing about a person real-time. It helps blind users to identify currencies, colour, handwriting, emotion/age/gender, light and even images in other apps. It powerfully converts visual data into audio feedback.

**SUBMITTED BY,
SUGUNA PRIYA S
SWETHA K
II- B.Sc. (CT)**

IOT LIQUID LEVEL MONITORING SYSTEM



This project IOT Liquid Level Monitoring system is a very innovative system which will inform the users about the level of liquid and will prevent it from overflowing. To demonstrate this the system makes use of 4 containers. For this the system uses ultrasonic sensors placed over the containers to detect the liquid level and compare it with the container's depth. The system makes use of AVR family microcontroller, LCD screen, Wifi modem for sending data and a buzzer. The system is powered by a 12V transformer. The LCD screen is used to display the status of the level of liquid in the containers.

Whereas a web page is built to show the status to the user monitoring it. The web page gives a graphical view of the containers and highlights the liquid level in color in order to show the level of liquid. The LCD screen shows the status of the liquid level. The system puts on the buzzer when the level of liquid collected crosses the set limit. Thus this system helps to prevent the wastage of water by informing about the liquid levels of the containers by providing graphical image of the containers via a web page

This IOT liquid level monitoring system could be installed in that chemical industries which have different chemicals in liquid form and store these chemicals in a separate tank. This IOT based system could be installed in mineral water industries to control the water level in a tank.

This system is less costly, more compact, more efficient and more reliable as compared to other liquid level monitoring systems.

**SUBMITTED BY,
VAJEEDHA BEGAM M
VARSHA A
II- B.Sc. (CT)**

KONGU ARTS AND SCIENCE COLLEGE (AUTONOMOUS), ERODE.

DEPARTMENT OF COMPUTER TECHNOLOGY AND INFORMATION TECHNOLOGY

IT BULLETIN

DATE: 20.11.2020

CORONA ROBOT

INTRODUCTION:



Invento C-Astra, a robot which helps screen patients and to disinfect common areas. The autonomous mobile unit can move around lobbies, hallways and can sanitise rooms. According to the startup, the robot makes use of disinfecting UV-C lamps to disinfect a room completely in just three to four minutes. The robot is currently being used in hotels to disinfect rooms, and is also being used at Apollo Hospitals, etc.

Its flagship robot, Mitra, which was designed for customer engagement, alerts host about the arrival of visitors. With the current COVID-19 crisis, it has been modified with the following features - scans temperatures of patients, collects necessary details of patients like their name, phone number, and picture, and even sets up a video call with the doctor for further diagnosis.

USES:

“This robot takes pictures of visitors and records their body temperature. It asks them for details such as name and phone number and validates their identity. It provides these details to the organisation the person is visiting. If the visitor fails the screening test, the robot immediately connects the visitor with telemedicine support. Doctors can talk to them directly through the robot and advise accordingly,” Balaji says.

It also scans temperature and other vitals of patients and collects and feeds the data (their temperature, diet, etc.) to the computer. Apart from this, the robot can also carry load of up to two kilograms.

**SUBMITTED BY
VIGNESH G
VARUN P
II-B.Sc.(CT)**

KONGU ARTS AND SCIENCE COLLEGE (AUTONOMOUS), ERODE.

DEPARTMENT OF COMPUTER TECHNOLOGY AND INFORMATION TECHNOLOGY

IT BULLETIN

DATE: 23.11.2020

SMART TRASH BIN

We all know how important it is to recycle but sometimes waste and recycling aren't always separated properly. This is a big problem with public bins where garbage and recycling often get thrown in together by people who aren't paying close attention. An invention called the Bin-e hopes to help fix that. This waste bin automatically sorts items into the correct bin, by figuring out what's garbage and what's recycling. To do this, the Bin-e has special sensors and cameras. They help the bin examine items and then each item is placed in its proper container. This is one gadget that definitely puts the planet first!

The new bin-e

Bin-e 4.0 is a hands free and non-contact option, featuring an automatically opening flap. With the newest technology, the device opens automatically when you approach it. This makes using our smart waste bin even easier.

Automatic sorting

Have you ever stood struggling in front of multiple recycling bins, wondering which one you should choose? With bin-e you won't have to struggle anymore. You just put the waste inside, the device identifies it and sorts it into the right fraction. It can't get any simpler than that!

The app

Bin-e we offer you an app that lets you control the device remotely, straight from your phone. It provides access to real time data such as technical status, fill level control and advanced reports. **Touchscreen**, the interface leads through the process and informs about fill level of bins.

SUBMITTED BY
YASVANTH B
ZHAKEER K S
II-B.Sc. (CT)