

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

IT Bulletin

Volume 12

Issue 2

March 2022

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FLYING ROBOTS

A drive system for autonomous robots with flapping wings has been developed by a University of Bristol team. The drive uses a method known as electromechanical zipping that does away with the need for conventional motors and gears.

This new advance, published today in the journal Science Robotics could pave the way for smaller, lighter and more effective micro flying robots for environmental monitoring, search and rescue and deployment in hazardous environments. Researchers from Bristol's Faculty of Engineering, led by Professor of Robotics Jonathan Rossiter have successfully demonstrated a direct-drive artificial muscle system called the Liquid-amplified Zipping Actuator (LAZA) that achieves wing motion using no rotating parts or gears.

LAZA:

The LAZA system greatly simplifies the flapping mechanism, enabling future miniaturization of flapping robots down to the size.

A pair of LAZA-powered flapping wings can provide more power compared with insect muscle of the same weight, enough to fly a robot across a room at 18 body lengths per second.

They also demonstrated how the LAZA can deliver consistent flapping over more than one million cycles, important for making flapping robots that can undertake long-haul flights.

With the LAZA, we apply electrostatic forces directly on the wing, rather than through a complex, inefficient transmission system. This leads to better performance, simpler design and will unlock a new class uses for future applications.

Submitted by
ABHISHEK.M
ALLWYN PRAKASH.A.S
II-B.Sc.(IT)

KONGU ARTS AND SCIENCE COLLEGE(AUTONOMOUS),ERODE

DEPARTMENT OF COMPUTER TECHNOLOGY AND INFORMATION TECHNOLOGY

IT BULLETIN

DATE:28.02.2022

6G(NETWORK)

In telecommunications, 6G is the sixth generation standard currently under development for wireless communications technologies supporting cellular data networks. It is the planned successor to 5G and will likely be significantly faster. Like its predecessors, 6G networks will probably be broadband cellular networks in which the service area is divided into small geographical areas called cells. Several companies (Nokia, Ericsson, Huawei, Samsung, LG, Apple, Xiaomi), as well as several countries (China, India, Japan and Singapore), have shown interest in 6G networks.

6G networks are expected to exhibit even more heterogeneity (be even more diverse) than their predecessors and are likely to support applications beyond current mobile use scenarios such as virtual and augmented reality (VR/AR), ubiquitous instant communications, pervasive intelligence and the Internet of Things (IoT).It is expected that mobile network operators will adopt flexible decentralized business models for 6G, with local spectrum licensing, spectrum sharing, infrastructure sharing, and intelligent automated management underpinned by mobile edge computing, artificial intelligence, short-packet communication and blockchain technologies.

Submitted by
ASHOK.P
II-B.Sc.(IT)

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

IT BULLETIN

DATE: 28.02.2022

OPPO RENO 7 PRO LAUNCHED



The Oppo Reno 7 Pro has been launched in India. It features Dimensity 1200 chipset, a 50-megapixel primary camera and a 4500mAh battery. It succeeds over the Oppo Reno 6 Pro launched last year. The Oppo Reno 7 Pro is priced at Rs 39,999 for the sole 12GB RAM and 256GB storage model. The phone is powered by a 4500mAh battery with 65W charging support. It runs Android 11 with ColorOS 12 on top.: It has connectivity options like 5G, Bluetooth, WiFi 6, GPS, USB-Type C. There's an in-display fingerprint scanner for authentication on this device.

The display is bright enough and sharp for most users and you won't find anything to complain about. This hardware is no slouch and for daily usage, will hardly find any faults. The Reno 7 Pro was introduced in China back in December 2021 and the device debuted in global markets on February 4, 2022. India is the first country outside China to get the Reno 7 Pro. The smartphone lasts more than a day for average use, including gaming, video calls and video streaming. Inside the Reno 7 Pro is a MediaTek Dimensity 1200 Max processor. However oppo Reno 7 pro does not provide a headphone jack. The performance of the phone is satisfactory in doing regular activities.

Submitted by
ASVIKAA.S
II-B.Sc.(IT)

LIVE ANIMATIONS: AR/VR TECHNOLOGY

Brands and businesses these days are searching for innovative ways to inspire customer loyalty. Live Animations, a leading developer of innovative loyalty programs based on advanced AR technology have been helping large retailers and kids and family brands achieve smoothly achieve their goals.

The company's remarkable work reflects in the rewards and reclaims. The company for its work has been recognized on Clutch with the highest 5-star ratings. Live Animations also entered the list of the Top Virtual Reality and Augmented Reality Developers in the world. When it comes to increasing revenue and building a loyal customer base, loyalty programs are proven more effective. However, as most loyalty programs either take the route of redeemed social media, campaigns, this space has seen nothing new in the past decade.

Because in the long run, a team of like-minded people inspired by the same idea will always win from people who work only for the sake of money.

Submitted by
BARANEETHARAN.G
II-B.Sc.(IT)

CYBERATTACKS IN 2021

IBM Security released its annual X-Force Threat Intelligence Index unveiling how ransomware and vulnerability exploitations together were able to “imprison” businesses in 2021 further burdening global supply chains with manufacturing emerging as the most targeted industry. While phishing was the most common cause of cyberattacks in general in the past year, IBM Security X-Force observed a 33% increase in attacks caused by vulnerability exploitation of unpatched software, a point of entry that ransomware actors relied on more than any other to carry out their attacks in 2021, representing the cause of 44% of ransomware attacks.

The 2022 report details how in 2021 ransomware actors attempted to “fracture” the backbone of global supply chains with attacks on manufacturing, which became 2021’s most attacked industry (23%), dethroning financial services and insurance after a long reign. An alarming 47% of attacks on manufacturing were caused due to vulnerabilities that victim organizations had not yet or could not patch, highlighting the need for organizations to prioritize vulnerability management.

The 2022 IBM Security X-Force Threat Intelligence Index maps new trends and attack patterns IBM Security observed and analyzed from its data – drawing from billions of datapoints ranging from network and endpoint detection devices, incident response engagements, phishing kit tracking and more including data provided by Intezer.

Some of the top highlights in this year’s report include:

Ransomware Gangs Defy Takedowns. According to the 2022 report, the average lifespan of the ransomware group before shooting down rebranding in seventeen months.

X-Force reveals that for businesses in Europe, Asia and MEA, unpatched vulnerabilities caused approximately 50% of attacks in 2021, exposing businesses’ biggest struggle patching vulnerabilities.

Cybercriminals are laying the groundwork to target cloud environments, with the 2022 report revealing a 146% increase in new Linux ransomware code and a shift to Docker-focused targeting, potentially making it easier for more threat actors to leverage cloud environments for malicious purposes.

Submitted by
BRUNDHA.S
II-B.Sc.(IT)

ARTIFICIAL INTELLIGENCE

AI for IT operations refers to the use of Artificial Intelligence to manage Information Technology based on a multi-based platform. The main technologies used in AIOps are Machine Learning and Big Data. These automate data processing and decision making, using both historical and online data.



As the hype around AI has accelerated, vendors have been scrambling to promote how their products and services use AI. Often what they refer to as AI is simply one component of AI, such as machine learning. AI requires a foundation of specialized hardware and software for writing and training machine learning algorithms. No one programming language is synonymous with AI, but a few, including Python, R and Java, are popular.

In general, AI systems work by ingesting large amounts of labeled training data, analyzing the data for correlations and patterns and using these patterns to make predictions about future states. In this way, a chatbot that is fed examples of text chats can learn to produce lifelike exchanges with people, or an image recognition tool can learn to identify and describe objects in images by reviewing millions of examples.

AI programming focuses on three cognitive skills: learning, reasoning and self-correction.

Submitted by
DHANUKUMAR.T
DHANUSUYA.T
II-B.Sc.(IT)

MICROSOFT ANNOUNCES HOLOLENS 2 FOR REGULATED ENVIRONMENTS

Companies can have different applications for the mixed reality device like to train and onboard new employees, provide workers with access to remote experts and complete tasks faster with interactive 3D guides.

Microsoft has announced an ‘Industrial Edition’ of its mixed reality headset, HoloLens 2, which can be used in controlled industrial environments.

The Redmond-based company said the device has been “designed, built and tested to support regulated environments that have rigorous requirements,” and added that people can use it without modifying their space, protocols or workflows.

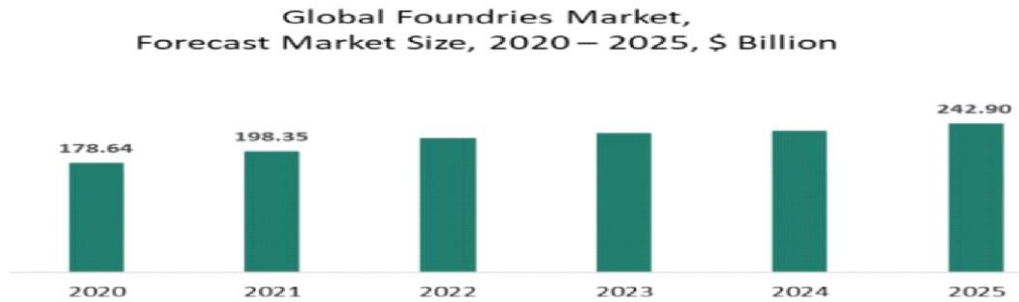
The software giant noted in a blog post.The new headset works on its own and other third-party mixed reality applications that are backed by Microsoft Azure.

HoloLens 2 features a dial-in fit system designed for extended use, and Wi-Fi connectivity for an untethered experience. People can securely log in to the device using their eyes with Windows Hello. It also uses smart microphones and natural language speech processing to support voice commands in noisy environments

HoloLens 2 Industrial Edition is open for pre-order in select markets where HoloLens 2 is available and shipments will begin in the next few months, Microsoft noted.

Submitted by
DHINAKARAN.S.P
DIVAKAR.P
II-B.Sc.(IT)

**INCREASING DEMAND FOR CLOUD COMPUTING BOOSTS THE
INFORMATION TECHNOLOGY MARKET DEMAND**



The demand for cloud computing services is expected to drive the demand for IT services during the forecast period. In cloud computing model data is stored on the internet by a cloud computing provider who manages and operates data storage as a service. Many companies are now choosing applications hosted in the cloud for their day-to-day operations. Companies are also opting for cloud-based data storage; thus, boosting the demand for IT services. Asia Pacific was the largest region in the information technology (IT) market in 2021.

North America was the second largest region of the information technology market. The regions covered in the IT market are Asia-Pacific, Western Europe, Eastern Europe, North America, South America, Middle East and Africa. The global information technology market size is expected to grow from \$8.38 trillion in 2021 to \$9.33 trillion in 2022 at a compound annual growth rate (CAGR) of 11.2%. The growth in the market is mainly due to the companies rearranging their operations and recovering from the COVID-19 impact which had earlier led to restrictive containment measures involving social distancing, remote working, and the closure of commercial activities that resulted in operational challenges. The global information technology market share is expected to reach \$13.82 trillion in 2026 at a CAGR of 10.3%.

Submitted by
GOKULNATH.V
II-B.Sc.(IT)

**HYBRID CLOUD AND AI TO DRIVE INNOVATION FOR CLIENTS
ACROSS INDUSTRIES**

AT&T and IBM have been co-innovating and helping enterprise clients transform for more than 20 years. Most recently, the two companies announced plans to show the digital transformation potential of 5G wireless networking and edge computing. Together, AT&T and IBM have created simulated environments for enterprise clients to physically experience the power of AT&T's connectivity with hybrid cloud and AI technology from IBM.



Applications in areas such as cybersecurity, device management and discovery are starting to harness the benefits of network data to provide faster and more robust insights in real time. Enterprises all over the world, across industries can work with AT&T and IBM to address their most complex challenges to improve business outcomes and better meet the needs of their customers. For example:

Manufacturing: Manufacturers can benefit from advances in visual inspection to help identify product anomalies and improvements to inventory management which is critical to manage a healthy supply chain. Using video intelligence can help by creating designated “safety zones” so when something enters or exits those zones, the facility is alerted.

Healthcare: Medical practices are always looking for ways to become more efficient and smarter about how they provide care to their patients – all while maintaining security and privacy best practices. Telemedicine is another way in which medical professionals can consult with and care for patients by using voice and collaboration tools. Predictive analytics and connected therapies allow medical professionals to monitor patients through connected devices and sensors. Enabling highly secured, real-time access to digital images like MRI or x-rays via a mobile device can increase collaboration and a faster pathway to answers.

Public Sector: Collaboration doesn't only happen in the classroom was a lesson we all learned over the past two years. Ensuring students, educators and administrators can connect virtually is important for continuous learning at all levels. The use of virtual reality can offer immersive learning experiences.

Submitted by
GOWSIYA.R
II-B.Sc.(IT)

AI SUPERCOMPUTER

Facebook parent Meta creates powerful AI supercomputer. It believes the computer will be the fastest in the world once it is fully built around the middle of the year. Facebook's parent company Meta said it has created what it believes is among the fastest artificial intelligence supercomputers running today.

The social media giant said it hopes the machine will help lay the groundwork for its building of the metaverse, a virtual reality construct intended to supplant the internet as we know it today. Facebook said it believes the computer will be the fastest in the world once it is fully built around the middle of the year.

Supercomputers are extremely fast and powerful machines built to do complex calculations not possible with a regular home computer. Meta did not disclose where the computer is located or how much it is costing to build. The computer which is already up and running but is still being built, is called AI Research SuperCluster. Meta says it will help its AI researchers build "new and better" artificial intelligence models that can learn from "trillions" of examples and work across hundreds of different languages simultaneously and analyze text, images and video together.

The way Meta is defining the power of its computer is different from how conventional and more technically powerful supercomputers are measured because it relies on the performance of graphics-processing chips, which are useful for running "deep learning" algorithms that can understand what's in an image, analyze text and translate between languages, said Tuomas Sandholm, a computer science professor and co-director of the AI center at Carnegie Mellon University. "We hope RSC will help us build entirely new AI systems that can, for example, power real-time voice translations to large groups of people, each speaking a different language, so they can seamlessly collaborate on a research project or play an AR game together," Meta said in a blog post.

The company said its supercomputer will incorporate "real-world examples" from its own systems into training its AI. It says its previous efforts used only open-source and other publicly available data sets. "They are going to, for the first time, put their customer data on their AI research computer," - Sandholm. "That would be a really big change to give AI researchers and algorithms access to all that data."

Submitted by
HARIHARAN.C
JAGADESH.S
II-B.Sc.(IT)

**A NEW TECHNOLOGY THAT USES HAND GESTURES TO CARRY
OUT COMMANDS ON COMPUTERS**



The prototype called “Typealike” works through a regular laptop webcam with a simple affixed mirror. The program recognizes the user’s hands beside or near the keyboard and prompts operations based on different hand positions. A user could, for example, place their right hand with the thumb pointing up beside the keyboard, and the program would recognize this as a signal to increase the volume. Different gestures and different combinations of gestures can be programmed to carry out a wide range of operations.

The innovation in the field of human-computer interaction aims to make user experience faster and smoother, with less need for keyboard shortcuts or working with a mouse and trackpad.

“The webcam is pointed at our face, but the most interaction happening on a computer is around our hands. So we thought, what could we do if the webcam could pick up hand gestures?” The initial insight led to the development of a small mechanical attachment that redirects the webcam downwards towards the hands. The team then created a software program capable of understanding distinct hand gestures in variable conditions and for different users. The team used machine learning techniques to train the Typealike program.

“It’s a neural network, so need to show the algorithm examples of what we’re trying to detect,” said Fabrice Matulic, senior researcher at Preferred Networks Inc. and a former postdoctoral researcher at Waterloo. The team recorded a database of hand gestures with dozens of research volunteers. They also had the volunteers do tests and surveys to help the team understand how to make the program as functional and versatile as possible.

The researchers say there are further applications for the Typealike program in virtual reality where it could eliminate the need for hand-held controller.

Submitted by
KANAGALAKSHIMIS
II-B.Sc.(IT)

**CALL FOR CODE APP USES AI TO MAKE HOMES SAFER AND
MORE RESILIENT**

Disasters can hit with little warning, but often it's not the earthquakes or windstorms that directly harm people, it's the failure of substandard housing that causes the most devastation. The World Bank reports that by 2030 nearly 3 billion people will be at risk of losing a loved one or their homes to disasters such as these. However, a machine learning solution that emerged from Call for Code to help builders, local officials and homeowners assess construction quality before and after storms might change all that.

Developers from Build Change, an organization dedicated to preventing housing loss caused by disasters, placed second in the 2018 Call for Code Global Challenge with their solution PD3R (Post-Disaster Rapid Response Retrofit). Their solution provided families with the ability to immediately assess whether their home could be structurally strengthened following an earthquake. The team received an award of \$25,000 USD, and now The Linux Foundation will host an offshoot of the technology as an open source project.

With the support of IBM, Build Change has created a new open source artificial intelligence tool called ISAC-SIMO that extends PD3R technology to help builders, local officials, and homeowners assess the construction quality of newly built or retrofitted homes.

Submitted by
KARTHIKEYAN.S
II-B.Sc.(IT)

FUTURE TECHNOLOGY BRAIN READING ROBOTS

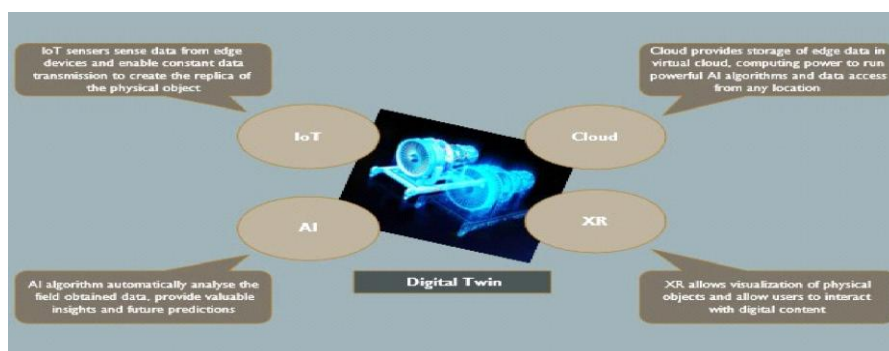
One of the most interesting and practical uses we've seen tested so far comes from researchers at the Swiss Federal Institute of Technology Lausanne (EPFL). These researchers have managed to create a robot arm and a brain-computer interface using machine-learning algorithm a means for tetraplegic patients (those who can't move their upper or lower body) to interact with the world.

3D PRINTED BONES

One of the most interesting uses of the technology is the building of 3D printed bones. The company Ossiform specialises in medical 3D printing, creating patient-specific replacements of different bones from tricalcium phosphate - a material with similar properties to human bones. Using these 3D printed bones is surprisingly easy. A hospital can perform an MRI which is then sent to Ossiform who create a 3D model of the patient specific implant that is needed. The surgeon accepts the design and then once it is printed, it can be used in surgery. What is special about these 3D printed bones is that because of the use of tricalcium phosphate, the body will remodel the implants into vascularised bone. That means they will enable the full restoration of function that the bone it is replacing had. To achieve the best integration possible, the implants are of a porous structure and feature large pores and canals for cells to attach to and reform bone.

DIGITAL TWINS

The US company has built a scanner that will measure hundreds of biomarkers in around an hour, from hormone levels to the fat building up in our liver to the markers of inflammation or any number of cancers. It intends to use this data to produce a 3D digital avatar of a patient's body - known as a digital twin - that can be tracked over time and updated with each new scan.



Submitted by
KATHIRVEL.K
MALARVIZHI.V
II-B.Sc.(IT)

AUTOMOTIVE SOFTWARE



Software is playing an increasing role in vehicles, from managing electric motors and batteries to supporting functions such as autonomous driving, entertainment and navigation. Automotive Software where all Software owned or used by Automotive or any member of the Automotive Group as of the Effective Time exclusively used or exclusively held for use in the EV Business.

Toyota's Own AS:

Toyota to launch its own automotive software platform by 2025. Software is playing an increasing role in vehicles, from managing electric motors and batteries to supporting functions such as autonomous driving, entertainment and navigation.

Japanese automaker Toyota Motor Corporation is planning to launch its own operating system which would be capable of handling advanced operations such as autonomous driving, for its vehicles by 2025. Toyota's automotive software platform Arene will compete with German rivals, Volkswagen AG and Daimler AG with Volkswagen working on its 'VW.OS' software and Daimler planning to roll out its own 'Mercedes-Benz Operating System' in its cars by 2024.

AS Includes:

The system will be able to handle advanced operations such as driving, managing electric motors and batteries to supporting functions such as entertainment and navigation.

The Japanese carmaker aims to put the operating system in its own vehicles by 2025, with plans to make it available to affiliates such as Subaru in the future. Toyota is considering a licensing model to make Arene available to other car manufacturers and companies working on electric or self-driving cars.

Submitted by
MOHANAPRASATH.R
II-B.Sc.(IT)

**TECHNOLOGIES LIKE BLOCKCHAIN AND AI TO BE
MAINSTAY IN REALITY DISRUPT MARKET**



- Technologies such as blockchain and artificial intelligence are becoming boardroom discussion topics in the real estate sector as the next few years are going to see a lot of digital-led transformations, says a report by Grant Thornton Bharat.
- “Real estate companies are increasingly using new-age digital technologies in every aspect of searching, buying, selling, and home financing. Technology such as Artificial Intelligence (AI) can now go through millions of documents in seconds, looking through property values, debt levels, home renovations, and even some of a homeowner’s personal information to enable data driven decision making, “said Pranav K, Client Advisor, Digital Transformation-dGTL Grant Thornton Bharat.
- According to experts, customer queries right from selecting the right property to after sales queries and arranging virtual visits have been completely redefined.
- Machine learning has made this process simpler by analysing a person’s search patterns and creating a more tailored listing of what they really want.
- By combining customer relationship management (CRM) and marketplace data, AI technology can also help agents and brokers better predict the future rent and value of a home in a specific market.

Submitted by
MOHANAPRIYA.S
II-B.Sc.(IT)

EXTENDED REALITY

Extended reality (XR) is a term referring to all real-and-virtual combined environments and human-machine interactions generated by computer technology and wearables. E.g. It includes representative forms such as augmented reality (AR), mixed reality (MR) and virtual reality (VR) and the areas interpolated among them. The levels of virtuality range from partially sensory inputs to immersive virtuality, also called VR.

XR is a superset which includes the entire spectrum from "the complete real" to "the complete virtual" in the concept of reality–virtuality continuum introduced by Paul Milgram. Still, its connotation lies in the extension of human experiences especially relating to the senses of existence (represented by VR) and the acquisition of cognition (represented by AR). With the continuous development in human–computer interactions, this connotation is still evolving.

XR is a rapid growing field being applied in a wide range of ways such as entertainment, marketing, real-estate, training and remote work

Submitted by
MOHANRAJ.M
II-B.Sc.(IT)

**MICROSOFT ANNOUNCES NEW FEATURES FOR OFFICE 365
MOBILE APPS TO BOOST PRODUCTIVITY**

Microsoft has announced a number of new enhancements for several of its Office 365 mobile apps to help improve user productivity. The software giant is bringing ‘conversational AI technology’ to Outlook for iOS with Cortana. The feature will allow users to do regular tasks and actions such as scheduling, adding participants to meeting invitations and composing messages using their voice. Microsoft announces HoloLens 2 for regulated environments. The Redmond-based company is mixing human voice inputs with AI to enable its voice assistant to learn about users, their preferences in grammar and recognise accent and dialect, it noted in a blog post. conversational AI feature with Cortana will be initially available in English for Outlook users on iOS in the U.S. with a Microsoft 365 work account, and will later be expanded to the Android users in the coming months, it added.

Also, Outlook mobile and web users will soon be able to add reactions to emails and conversations. Teams mobile app allows users to speak into Cortana in English in the U.S., to make calls, send messages and share files. This voice assist feature will also be rolled in Australia, Canada, U.K., and India. But Microsoft did not specify when it will be rolled out.

In addition, Microsoft Search in Teams and Office mobile is getting support for natural language queries in English in the U.S. Teams users will be able to type phrases in the search box or use Cortana to find messages, chats, meetings, people, and files. Also, people logged in to a work account can use Search in Office mobile to easily find files.

Microsoft Lens will be integrated with Teams, allowing users to record and share short videos through chat. Users will be able to annotate a video with text, emojis, do basic editing, and even add live filters before sharing it. Microsoft increases upload file size limit to 250 GB for Teams, OneDrive. Further, Microsoft Lens will be able to recognise English handwritten texts, enabling users to scan and convert content from whiteboards, letters, to-do lists, and notes, into text. This enhancement will be rolled out on the Lens app first and then in Office mobile.

Submitted by
MOHANRAJ.P
II-B.Sc.(IT)

WINDOWS 11

Windows 11 is the latest major release of Microsoft's Windows NT operating system that was announced on June 24, 2021, and is the successor to Windows 10 which was released in 2015. Windows 11 was released to the public on October 5, 2021, as a free upgrade via Windows Update and Windows 11 Installation Assistant on eligible devices running Windows 10.

Windows 11 features major changes to the Windows shell influenced by the cancelled Windows 10X, including a redesigned Start menu, the replacement of its "live tiles" with a separate "Widgets" panel on the taskbar, the ability to create tiled sets of windows that can be minimized and restored from the taskbar as a group, and new gaming technologies inherited from Xbox Series X and Series S such as Auto HDR and DirectStorage on compatible hardware. Internet Explorer (IE) has been replaced by the Chromium-based Microsoft Edge as the default web browser like its predecessor, Windows 10 and Microsoft Teams is integrated into the Windows shell. Microsoft also announced plans to allow more flexibility in software that can be distributed via Microsoft Store and to support Android apps on Windows 11 (including a partnership with Amazon to make its app store available for the function).

Citing security considerations, the system requirements for Windows 11 were increased over Windows 10. Microsoft only officially supports the operating system on devices using an eighth-generation Intel Core CPU or newer (with some minor exceptions), AMD Ryzen CPU based on Zen+ microarchitecture or newer, or a Qualcomm Snapdragon 850 ARM system-on-chip or newer with UEFI secure boot and Trusted Platform Module (TPM) 2.0 supported and enabled (although Microsoft may provide exceptions to the TPM 2.0 requirement for OEMs). While the OS can be installed on unsupported processors, Microsoft does not guarantee the availability of updates. Windows 11 removed support for 32-bit x86 CPUs and devices which use BIOS firmware.

Windows 11 has received a mixed to positive reception; pre-release coverage of the operating system focused on its stricter hardware requirements, with discussions over whether they were legitimately intended to improve the security of Windows or a ploy to upsell users to newer devices, and over e-waste associated with the changes.

Submitted by
MUKILA.M.K
NAVEEN KUMAR.T
II-B.Sc.(IT)

**VIRTUALREALITY SOFTWARETOTREATPOST-TRAUMATIC
STRESS DISORDER**



Bravemind is a clinical, interactive, virtual reality (VR) based exposure therapy tool being used to assess and treat post-traumatic stress disorder (PTSD). The assessment and treatment of PTSD is a major concern to the military because stressful experiences in today's war-fighting environments have resulted in a significant number of soldiers returning from deployment being at risk for developing PTSD.

The Bravemind VR Exposure Therapy software was created at the USC Institute for Creative Technologies by Dr. Albert "Skip" Rizzo, Director for Medical Virtual Reality at ICT and Research Professor in the USC Davis School of Gerontology, and USC Keck School of Medicine Department of Psychiatry and Behavioral Sciences and Computer Scientist Arno Hartholt, who heads up the Integrated Virtual Humans and Art Production Group.

USC Stevens Center for Innovation has completed licenses for Bravemind to be used by several universities and hospitals, as well as private companies. This has helped to facilitate Bravemind's dissemination, in addition to Dr. Rizzo's research and testing over the last 12 years. Also, the software is available free of charge for non-commercial clinical use.

Submitted by
PRAGALYA.M
PRAVEEN KUMAR.S
II-B.Sc.(IT)

CYBERSECURITY

Cybersecurity is the practice of protecting systems, networks and programs from digital attacks. These cyberattacks are usually aimed at accessing, changing, or destroying sensitive information; extorting money from users; or interrupting normal business processes.

Implementing effective cybersecurity measures is particularly challenging today because there are more devices than people, and attackers are becoming more innovative. Successful cybersecurity approach has multiple layers of protection spread across the computers, networks, programs, or data that one intends to keep safe. In an organization, the people, processes, and technology must all complement one another to create an effective defense from cyber attacks. A unified threat management system can automate integrations across select Cisco Security products and accelerate key security operations functions.

Today's connected world, everyone benefits from advanced cyberdefense programs. At an individual level, a cybersecurity attack can result in everything from identity theft, to extortion attempts, to the loss of important data like family photos. Everyone relies on critical infrastructure like power plants, hospitals, and financial service companies. Securing these and other organizations is essential to keeping our society functioning.

Types of cybersecurity threats:

- Phishing - Phishing is the practice of sending fraudulent emails that resemble emails from reputable sources. The aim is to steal sensitive data like credit card numbers and login information. It's the most common type of cyber attack.
- Malware - Malware is a type of software designed to gain unauthorized access or to cause damage to a computer.
- Ransomware - Ransomware is a type of malicious software. It is designed to extort money by blocking access to files or the computer system until the ransom is paid. Paying the ransom does not guarantee that the files will be recovered or the system restored.

Cybersecurity can be categorized into five distinct types: Critical infrastructure security, Application security, Network security, Cloud security and Internet of Things (IoT) security.

Submitted by
RASIGA.P
II-B.Sc.(IT)

VALVE'S NEWHANDHELD PC

Valve's new handheld PC, the Steam Deck, has officially been released. The hardware was originally slated for release in December 2021 but was pushed back due to supply chain issues. Despite the hardware having been released, many orders are only available "after Q2 2022". When asked if it would be able to fulfil these pre-orders, Valve president Gabe Newell pointed to unexpected high demand. "The shortages are not due to supply shock, they're due to a demand shock," he said. "It's just this huge uptake in silicon consumption that caught everybody more or less flat-footed".

Valve started contacting people who pre-ordered Steam Decks on a first-come, first-served basis. Customers have three days from receipt of the email from Valve to complete their purchase or lose their spot in the queue. It is unclear when customers will receive their hardware, but Valve said it will begin shipping on 28 February. The base version of the Steam Deck costs £349 and comes with 64GB flash storage, while the top-end version costs £569 and has 512GB of faster internal storage.

A BIG LIBRARY OF GAMES:

One of the clear selling points of the Steam Deck is its vast library of more than 62,000 games with many titles playable in some form or another. Greg Coomer, a designer at Valve, said this library was at the heart of the product's inception. "Our goal was to bring all the games on Steam to a handheld form factor, to be able to play even the triple A games in the library," he said. Unlike buying a new console, players who have accrued hundreds of PC games over their life will settings. If they are immediately playable on the Steam Deck. One section on the home screen will show you just how many of the games you own are considered to be "Great on Deck", meaning the games fully support the hardware. But this is not foolproof, as we experienced severe stuttering and slowdown in one of the selected games, the 2011 title Sonic Generations.

THE INTERNAL:

A feature of the handheld is its battery life. Valve says it can hold charge for up to eight hours depending on use, although we were unable to find a game which ran for this length of time on default settings. The battery time varies from game to game with hit title Grand Theft Auto V lasting just under five hours with default graphics settings.

**Submitted by
RUBIKA.K.S
II-B.Sc.(IT)**

KONGU ARTS AND SCIENCE COLLEGE (AUTONOMOUS), ERODE

DEPARTMENT OF COMPUTER TECHNOLOGY AND INFORMATION TECHNOLOGY

IT BULLETIN

DATE: 18.03.2022

METaverse

A metaverse is a network of 3D virtual worlds focused on social connection. In futurism and science fiction, it is often described as a hypothetical iteration of the Internet as a single, universal virtual world that is facilitated by the use of virtual and augmented reality headsets.

Video games

Several components of metaverse technologies have already been developed within modern internet-enabled videogames.

The 2003 virtualworld platform SecondLife is often described as the first metaverse, as it incorporated many aspects of social media into a persistent three-dimensional world with the user represented as an avatar. Social functions are often an integral feature in many massivelymultiplayeronlinegames.

Virtual reality

In 2019, the social network company Facebook launched a social VR world called Facebook Horizon. In 2021, Facebook was renamed "Meta Platforms" and its chairman Mark Zuckerberg declared a company commitment to developing a metaverse. Many of the virtual reality technologies advertised by Meta Platforms remains to be developed. Microsoft acquired the VR company AltspaceVR in 2017 and has since implemented metaverse features such as virtual avatars and meetings held in virtual reality into Microsoft Teams.

Technology

- Augmented reality (AR).
- Mixed reality.
- Virtual reality (VR).
- Virtual world technologies - Current hardware development is focused on overcoming limitations of VR headsets, sensors, and increasing immersion with haptic technology.
- Software - There has been no wide-scale adoption of a standardised technical specification for metaverse implementations, and existing implementations rely primarily on proprietary technology. Interoperability is a major concern in metaverse development, stemming from concerns about transparency and privacy.

Submitted by
SABARINATHAN.G
II-B.Sc.(IT)

INTEGRATED CHIP THAT SECURES YOUR PERSONAL DATA FROM HACKERS

The small sized, low energy consuming chip is equipped with advanced encryption techniques to prevent information leakage from a smart device.

MIT researchers developed an application-specific integrated circuit (ASIC) chip that can be implemented on an internet of things device to defend against power-based side-channel attacks.

In this age of increased digitalisation where several electronic devices seem to be connected to the internet for faster processing and storage of critical data, the chances of cyberattacks on them through a side-channel attack for malicious purposes is a grave concern. A side-channel attack seeks to gather secret information by indirectly exploiting a system or its hardware. A savvy hacker could monitor fluctuations in the device's power consumption while the neural network is operating to extract protected information that "leaks" out of the device. Existing methods to prevent side-channel attacks consume a lot of power, making them unfeasible for low-powered IoT devices like smartwatches.

Now the research team from the Department of Electrical Engineering and Computer Science (EECS) at MIT has devised a small-sized integrated circuit chip that can protect against high-powered side-channel attacks while using much less energy. The chip is beneficial for incorporation into smartwatches, smartphones or tablets to perform secure machine learning computations on sensor values.

"The goal was to build an integrated circuit that did machine learning on the edge, so that (even though being low-powered), it protected against side-channel attacks and ensured privacy," said Anantha Chandrakasan, Vannevar Bush Professor of Electrical Engineering. "People have not paid much attention to the security of these machine-learning algorithms, and this proposed hardware is effectively addressing this space."

Based on threshold computing, the chip has a neural network that splits data into unique, random components and operates upon them, in a random order, before accumulating the final result. Using this method, the information leakage from the device is random every time, thereby not revealing any actual side-channel information.

But this approach is more computationally expensive since the neural network runs more operations and also requires more memory to store the jumbled information.

Submitted by
SANJEEV.K
II-B.Sc.(IT)

FACIAL RECOGNITION AND HAND GESTURES

The technology will enable users to start their vehicles as well as make adjustments to control the vehicles through facial expressions and hand gestures.

LG Electronics has developed a new technology that will enable car owners to start their vehicles without using a key by identifying their facial expressions and finger movements using multiple in-car cameras. The biometric authentication system uses one of the cameras to identify the user's specific body parts.

A second camera automatically adjusts its viewing angles based on the data of the first camera to capture the user's iris and other biometric characteristics. The technology will enable users to start their vehicles as well as make adjustments to control the vehicles through facial expressions and hand gestures according to a report by Digitimes. Besides regular and autonomous driving, the biometric recognition technology can also be applied to virtual reality, augmented reality and 5G communications, according to the report.

Techradar reports that specific body parts of the car owner are recorded using one camera and informs about adjustments. While the other records camera captures their iris and other biometric characteristics. This allows the driver to start their cars and make the required adjustments by just using hand gestures and facial expressions. Each driver can customise the environment inside the vehicle by using facial recognition.

For instance, whenever the vehicle identifies the driver who is using facial recognition, it automatically adjusts the seat position, cabin temperature, speed and audio volume that is preferred by that driver.

The report also adds that this system will be able to notice if a driver is exhausted or falling sick while driving. Facial recognition technology on the vehicle's dashboard camera helps in keeping the vehicle secured. It can identify the driver and other family members who are authorised to drive the vehicle. This ensures that the vehicle is not misused or stolen.

Submitted by
SANTHOSH.P.S
II-B.Sc.(IT)

TOYOTA HEADING TO MOON WITH CRUISER AND ROBOTIC ARMS

The vehicle being developed is called Lunar Cruiser whose name pays homage to the Toyota Land Cruiser sport utility vehicle. This graphic illustration provided by Toyota Motor Corp. shows a vehicle called 'Lunar Cruiser' to explore the lunar surface. Toyota is working with Japan's space agency on the Lunar Cruiser to explore the lunar surface, with ambitions to help people live on the moon by 2040 and then go live on Mars, company officials said January 28, 2022.

The vehicle is based on the idea that people eat, work, sleep and communicate with others safely in cars, and the same can be done in outer space, said Takao Sato, who heads the Lunar Cruiser project at Toyota Motor Corp. "We see space as an area for our once-in-a-century transformation. By going to space, we may be able to develop telecommunications and other technology that will prove valuable to human life," Mr. Sato told The Associated Press. Gitai Japan Inc., a venture contracted with Toyota, has developed a robotic arm for the Lunar Cruiser, designed to perform tasks such as inspection and maintenance. Its "grapple fixture" allows the arm's end to be changed so it can work like different tools, scooping, lifting and sweeping.

Gitai Chief Executive Sho Nakanose said he felt the challenge of blasting off into space has basically been met but working in space entails big costs and hazards for astronauts. Since its founding in the 1930s, Toyota has fretted about losing a core business because of changing times. It has ventured into housing, boats, jets and robots. Its net-connected sustainable living quarters near Mount Fuji, called Woven City, where construction is starting this year.

Japanese fascination with the moon has been growing. A private Japanese venture called ispace Inc. is working on lunar rovers, landing and orbiting, and is scheduled for a moon landing later this year. Businessman Yusaku Maezawa, who recently took videos of himself floating around in the International Space Station, has booked an orbit around the moon aboard Tesla CEO Elon Musk's Starship. Toyota engineer Shinichiro Noda said he is excited about the lunar project, an extension of the automaker's longtime mission to serve customers and the moon may provide valuable resources for life on Earth. "Sending our cars to the moon is our mission," he said. Toyota has vehicles almost everywhere. "But this is about taking our cars to somewhere we have never been."

Submitted by
SARATHI.K
II-B.Sc.(IT)

YUAN WALLET APPS

The Chinese government has reportedly created a digital currency controlled by its central bank. With credit cards and payment apps, money dealings are already some sort of virtual. But now, China is turning legal tender itself into computer code. By design, the digital yuan will negate one of bitcoin's major draws.

Central banks across the world, including the People's Bank of China (PBOC), are looking at developing digital currencies that could play a role in making domestic and international payments faster and cheaper for both large-scale and consumer transactions.

From a user perspective, it is rather like China's existing commercial digital payment methods, like Alipay and We Chat Pay: users download digital wallets in which they can store their funds, and which generate a QR code that can be scanned by payment terminals in shops. The digital yuan is designed to replace cash in circulation, such as coins and bank notes, not money deposited long-term in bank accounts. Commercial banks will have a role in distributing the digital currency to users, and to do so they must deposit exactly the same amount of their reserves with the PBOC as the digital yuan they distribute. Unlike cryptocurrencies like bitcoin, the digital yuan will not use blockchain, distributed ledger technology which allows transactions to be validated without the need for banks.

Widespread use of the digital yuan may give Chinese policy makers greater visibility into how money flows around China's economy. This would help them track any illicit flows of funds and it would also allow them to experiment by targeting monetary policy interventions on specific economic classes, regions or other groups. In extreme economic circumstances, it would also allow them to have negative interest rates for cash. China has a long-standing aim of internationalising its currency, and in time, the digital yuan may help with this initiative, making it easier to encourage users in other countries to use the yuan.

US Treasury secretary Janet Yellen signaled the Joe Biden administration supports research into the viability of a digital dollar, a shift from the lack of enthusiasm shown for the concept under her predecessor, Steven Mnuchin. "It makes sense for central banks to be looking at" issuing sovereign digital currencies, Yellen said at a virtual conference hosted by the New York Times in February this year. Over the months, many countries have experimented with digital currencies, data available with the Bank for International Settlements showed. For instance, Sweden has conducted real-world trials of a digital krona, and the Bahamas made a digital currency, the Sand Dollar, available to all citizens.

Submitted by
SATHEESH KUMAR.T
II-B.Sc.(IT)

FAKE EMAILS

The UK's national fraud reporting center is warning about fake emails pretending to raise money for victims of the war in Ukraine. Action Fraud has received 196 reports of bogus requests to fundraise for victims of the crisis. Scammers use a variety of methods to confuse donors, including selling charity T-shirts, it says.

Some are even pretending to be Wladimir Klitschko, whose brother Vitali is mayor of Ukraine's capital, Kyiv.

Action Fraud has shared advice about how to detect the scams:

- Never click on the links or attachments in suspicious emails or respond to unsolicited messages asking for personal or financial details even if they are in the name of a charity.
- To donate online, type in the address of the charity website rather than clicking on a link.
- Be cautious when donating to an online fundraising page – fake ones are often badly written or contain spelling mistakes.
- A representative said: "The links in the emails lead to malicious websites that are designed to steal your money and personal information.
- "When donating, check the charity's name and registration number on the government's website.
- "Most charities with an annual income of £5,000 or more must be registered."
- According to the Charity Commission, the most efficient and helpful way to support those in need is to give money to established, registered charities with experience delivering humanitarian aid.
- The National Cyber Security Centre (NCSC) also operates a service to let people report emails they suspect are scams or attempts to phish their confidential information.
- It was told that BBC News scammers were using the situation in Ukraine to defraud people wanting to help.
- "This is wholly deplorable and sadly typical of fraudsters who exploit current affairs to try to trick people," the NCSC said.
- People should be especially vigilant for any suspicious emails or texts that use topical events and report them to the NCSC.
- "If found to be malicious, we will take appropriate action to remove these websites."

Submitted by
SAURATHI.S.K
II-B.Sc.(IT)

NO SHORTAGE OF RESOURCES AIMED AT HACKING CLOUD ENVIRONMENTS

IBM's 2021 X-Force Cloud Security Threat Landscape Report has expanded from the 2020 report with new and more robust data, spanning Q2 2020 through Q2 2021. Data sets we used include dark web analysis, IBM Security X-Force Red penetration testing data, IBM Security Services metrics, X-Force Incident Response analysis and X-Force Threat Intelligence research. This expanded dataset gave us an unprecedented view across the whole technology estate to make connections for improving security. Here are some quick highlights:

- **Configure it Out** Two out of three breached cloud environments studied were caused by improperly configured Application Programming Interface (APIs). X-Force incident responders also observed virtual machines with default security settings that were erroneously exposed to the Internet, including misconfigured platforms and insufficiently enforced network controls.
- **Rulebreakers Lead to Compromise** - X-Force Red found password and policy violations in the vast majority of cloud penetration tests conducted over the past year. The team also observed a significant growth in the severity of vulnerabilities in cloud-deployed applications, while the number of disclosed vulnerabilities in cloud-deployed applications rocketed 150% over the last five years.
- **Automatic for the Cybercriminals** - With nearly 30,000 compromised cloud accounts for sale at bargain prices on dark web marketplaces and Remote Desktop Protocol accounting for 70% of cloud resources for sale, cybercriminals have turnkey options to further automate their access to cloud environments.
- **All Eyes on Ransomware & Cryptomining** - Cryptominers and ransomware remain the top dropped malware into cloud environments, accounting for over 50% of detected system compromises, based on the data analyzed.

Submitted by
SHARNIKA.S
SHASHWATH.P
II-B.Sc.(IT)

NIKOLA - HUMANOID ROBOT



Wataru Sato from the RIKEN Guardian Robot Project focused on building a humanoid robot, or android, that can use its face to express a variety of emotions. The result is Nikola, an android head that looks like a hairless boy. Inside Nikola's face are 29 pneumatic actuators that control the movements of artificial muscles. Another 6 actuators control head and eyeball movements. Pneumatic actuators are controlled by air pressure, which makes the movements silent and smooth. The team placed the actuators based on the Facial Action Coding System (FACS), which has been used extensively to study facial expressions.

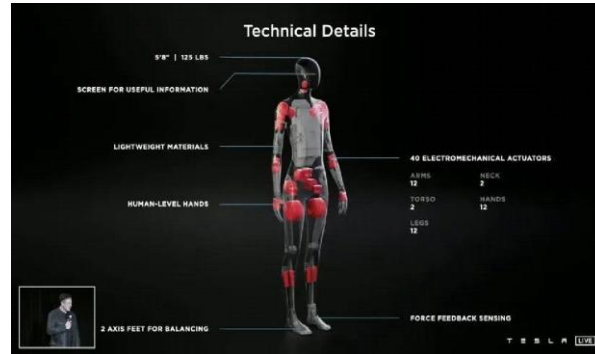
Typically, studies of emotions, particularly how people react to emotions, have a problem. It is difficult to do a properly controlled experiment with live people interacting, but at the same time, looking at photos or videos of people is less natural, and reactions aren't the same. "The hope is that with androids like Nikola, we can have our cake and eat it too," says Sato. "We can control every aspect of Nikola's behavior, and at the same time study live interactions."

The first step was to see if Nikola's facial expressions were understandable. A second test showed that everyday people could recognize the six prototypical emotions like happiness, sadness, fear, anger, surprise, and disgust in Nikola's face, albeit to varying accuracies. "In the short term, androids like Nikola can be important research tools for social psychology or even social neuroscience," says Sato. "Compared with human confederates, androids are good at controlling behaviors and can facilitate rigorous empirical investigation of human social interactions."

While Nikola still lacks a body, the ultimate goal of the Guardian Robot Project is to build an android that can assist people, particularly those which physical needs who might live alone. "Androids that can emotionally communicate with us will be useful in a wide range of real-life situations such as caring for older people and can promote human wellbeing," says Sato.

Submitted by
SIVAAKSHAYA.K
SRINITHI.S
II-B.Sc.(IT)

TESLA BOT



Tesla Bot, also known as Optimus, is a conceptual general purpose robotichumanoid planned by Tesla, Inc., unveiled at the company's AI Day event. CEO Elon Musk claimed during the event that Tesla would build a prototype by 2022.

Specifications :

Tesla Bot will measure 5'8" (173 cm) tall and weigh 125lbs (57 kg). According to the presentation made during the AI Day event, a Tesla Bot will be "controlled by the same AI system Tesla is developing for the ADAS system used in its cars" and have a carrying capacity of 45 lb (20 kg). Proposed tasks for the product are ones that are "dangerous, repetitive and boring", such as providing manufacturing assistance.

Research problems :

Keeping the robot upright would be one of the biggest issues, Prof Prescott said along with creating hands and any form of hand-to-eye co-ordination."These are fundamental research problems that need to solve," he said.

Even robots such as Atlas, designed by Boston Dynamics and regarded as one of the most sophisticated humanoid bots available."Tesla cars are robots - but they are a much simpler form. so this will be starting from scratch," Prof Prescott added.Prof Winfield agrees with Mr. Musk on one thing though."The only thing that Musk is getting right is that the path towards AGI will be through physical robots," he said.

The Tesla boss's new robotics focus may disappoint some customers - in the same earnings call, he also said the company would not be introducing any new car models in 2022.

Submitted by
SRINITHISH.B
II-B.Sc.(IT)

EMERGING 5G WIRELESS SYSTEMS

Encryption methods now used to secure communications from eavesdroppers can be challenging to scale towards such high-speed and ultra-low latency systems for 5G and beyond. This is because the very nature of encryption requires exchange of information between sender and receiver to encrypt and decrypt a message. This exchange makes the link vulnerable to attacks; it also requires computing that increases latency. Latency, the amount of time between sending instructions on a network and the arrival of the data, is a key measure for tasks like autonomous driving and industrial automation.

Seeking to close this security gap, Princeton University researchers have developed a methodology that incorporates security in the physical nature of the signal. In a report published in Nature Electronics, the researchers describe how they developed a new millimeter-wave wireless microchip that allows secure wireless transmissions to prevent interception without reducing latency, efficiency and speed of the 5G network.

“We are in a new era of wireless the networks of the future are going to be increasingly complex while serving a large set of different applications that demand very different features,” Sengupta said. “Think low-power smart sensors in your home or in an industry, high-bandwidth augmented reality or virtual reality, and self-driving cars. To serve this and serve this well, we need to think about security holistically and at every level.”

Instead of relying on encryption, the Princeton method shapes the transmission itself to foil would be eavesdroppers. To explain this, it helps to picture wireless transmissions as they emerge from an array of antennas. With a single antenna, radio waves radiate from the antenna in a wave. When there are multiple antennas working as an array, these waves interfere with each other like waves of water in a pond. The interference increases the size of some wave crests and troughs and smooths out others.

Sengupta’s team realized they could foil eavesdroppers by making the signal at the eavesdroppers’ location appear almost as noise. They do this by chopping up the message randomly and assigning different parts of the message to subsets of antennas in the array. The researchers were able to coordinate the transmission so that only a receiver in the intended direction would be able to assemble the signal in the correct order. Everywhere else, the chopped-up signals arrive in a manner that appears noise-like.

The team created the entire end-to-end system in a silicon chip that is manufactured by standard silicon foundry processing.

Submitted by SRUTHI.A
II-B.Sc.(IT)

WHAT ARE THE TOP CYBERSECURITY TOOLS?

Cybersecurity tools include several free, paid, or open-source tools that enable the protection of important and sensitive business or individual data.

1. **Kali Linux** -It is one of the leading penetration tools used for ethical hacking, assessing network security, system scanning, etc. This tool can be easily executed by cybersecurity analysts possessing different levels of understanding, making it an ideal choice for entry-level professionals. Kali Linux permits security auditing using nearly 600 penetration-testing programs.
2. **Burp Suite** - It is a powerful cybersecurity tool used by professionals worldwide to ensure network security by scanning their networks and identifying critical vulnerabilities. It is used by more than 15,000 organizations for improving web security and software delivery. Burp Suite has the following versions - Community, Enterprise, and Professional. Although the Community version is free, it only provides necessary manual tools and has several restricted features which cannot be used. Both Enterprise and Professional are paid versions intended for commercial use.
3. **WebGoat** - It is a by-design insecure application that allows developers/users to assess vulnerabilities found in Java-based applications using common open source applications. This application, developed by OWASP, is a demonstration of usual server-side application glitches, and it is intended for teaching about web application security. It can be used by individuals who wish to understand application security and penetration testing methods.
4. **Nmap** - Network Mapper (Nmap), a free, open-source cybersecurity tool, is used for checking IT systems and networks for identifying security threats and vulnerabilities. It helps professionals take suitable security measures by allowing them to outline potential areas of attack track host operational performance and service. Nmap can operate on almost every popular operating system and can help in tracking vulnerabilities on the web, regardless of the network size.
5. **Cuckoo Sandbox** - It is an open-source tool for automatically detecting malware. It launches the malware in an isolated and realistic environment and fools the malware into thinking that the malware has infected a host. It then records the activity of the malware and generates a detailed report. Cuckoo helps users not only identify and remove malware but also understand the operation, motive, context, and goals of the attack.

Submitted by
SUJA.A.K
II-B.Sc.(IT)

DIGITAL TECHNOLOGY ON THE CUTTING EDGE

At Sandvik, work has begun to incorporate Industry 4.0 into its production processes. The Sandvik brand Dormer Pramet, a global cutting-tool manufacturer, is working with IBM, one of the world's leading data analysis companies, on several key projects.

“These include using large amounts of data to map the value chain throughout every department of our production unit in Sumperk, in the Czech Republic, and incorporating computer software to identify defects in tools during the early stages of manufacture,” says Radim Bullawa, Industry Engineering Manager, at Dormer Pramet.

In the first project, advanced algorithms and statistical methods were used to track, over the past two years, every indexable product order, determining how the item moved through the production unit and creating a network model of the entire factory.

Interacting machines this model described how the machines interacted with each other and showed how any process disruption, such as unscheduled machine downtime, can spread through the entire system. “It identified critical points in the process where small issues can cause major inefficiencies later,” says Radim Bullawa. “All were ranked by severity to help focus on where improvements were needed to optimize performance and achieve the greatest impact.”

All these digital elements and projects aim to enhance our existing high standards of manufacturing. In the second phase of the project, they looked at the definition of the metrics that quantified issues such as quality, maintenance downtime and compliance with the production plan. These metrics were again analyzed to identify further areas of operational change and suggest specific improvements.

Scanning inserts Meanwhile, Dormer Pramet is using an IBM inspection station, implemented within a pressing machine, to scan inserts using a series of cameras, lights and moving mechanical elements. This is during the first phase of the production process and can help improve the quality of its products at the very beginning of the manufacturing process.

Submitted by
THARANI RAJAN.S
II-B.Sc.(IT)

**WHATSAPP BANNED OVER 10 LAKH INDIAN ACCOUNTS IN
FEBRUARY: COMPLIANCE REPORT**



Compliance Report Meta-owned instant messaging platform WhatsApp has banned more than 10 lakh accounts (1.4 million to be specific) between February 1 and 28, according to the company’s latest transparency report. These accounts were removed for being involved in harmful activities on the platform, such as harassing users, forwarding fake news, and more.

The report is published in accordance with Rule 4(1)(d) of the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021. Every social media intermediary has to comply with the IT rules 2021 and release a monthly transparency report on all the grievance the platforms received and what action did the platform take. This is the ninth report published by WhatsApp.

“Over the years, we have consistently invested in Artificial Intelligence and other state-of-the-art technology, data scientists and experts, and in processes, in order to keep our users safe on our platform. In accordance with the IT Rules 2021, we’ve published our ninth monthly report for the month of February 2022. This user-safety report contains details of the user complaints received and the corresponding action taken by WhatsApp, as well as WhatsApp’s own preventive actions to combat abuse on our platform. As captured in the latest Monthly Report, WhatsApp banned over 1.4 million accounts in the month of February,” said a WhatsApp spokesperson in a statement.

WhatsApp says that it has deployed tools and resources to prevent harmful behavior on the platform. Particularly focused on prevention because the company believes “it is much better to stop harmful activity from happening in the first place than to detect it after harm has occurred.”

Submitted by
THARANIKA.B
II-B.Sc.(IT)

KONGU ARTS AND SCIENCE COLLEGE (AUTONOMOUS), ERODE

DEPARTMENT OF COMPUTER TECHNOLOGY AND INFORMATION TECHNOLOGY

IT BULLETIN

DATE: 29.03.2022

CHIPS FOR AR GLASSES

Qualcomm, Microsoft partner to build custom chips for AR glasses. The company said it is working with the tech giant to deliver a rich and immersive experience and plans to integrate software like Microsoft Mesh and Snapdragon Spaces XR Developer Platform. Qualcomm Corporation has partnered with Microsoft to develop a custom AR chip that will power AR glasses within Microsoft's ecosystems.

At the 2022 Consumer Electronics Show (CES), Qualcomm said both companies are believers in the metaverse and the chipmaker is working with Microsoft to expand and accelerate the adoption of augmented reality. "This collaboration reflects the next step in both companies' shared commitment to XR and the metaverse," Hugo Swart, vice president and general manager of XR, Qualcomm Technologies, Inc said.

Qualcomm's collaboration with Microsoft is not recent. The chip maker's Snapdragon 850 chip has been powering Microsoft's HoloLens 2 since 2019. In a bid to cash in on the opportunity that AR and VR offers, Qualcomm has increased its focus in the area. For instance, its Snapdragon XR2 powers the Oculus Quest 2 and the partnership with Microsoft is yet another step towards strengthening its presence in the segment. "Our goal is to inspire and empower others to collectively work to develop the metaverse future – a future that is grounded in trust and innovation," - Rubén Caballero.

The semiconductor giant sells the Snapdragon chips at the heart of Microsoft's HoloLens 2 mixed reality headset, released in 2019. While wearing the headset, users can see instructions and other data projected on the physical world. They can also interact with digital objects by using their fingers to grab the corners of the object and drag and drop it in the environment by using their voice or other gestures. While consumers could use the glasses to meet in a physically accurate 3D space, engineers could use them to design a digital twin of a car before building on it. Workers can use them for training purposes. This includes mapping a person's surroundings to project objects on top of the scene, and tracking the person's hands so they can manipulate objects using their hands or other gestures.

Qualcomm said the new chip will also be designed to work with software from Microsoft called Mesh that allows a person to share a hologram or animated "avatar" of themselves with another person's augmented reality glasses or mixed reality headset so it feels as if they are meeting in the same room.

Submitted by
VENGATESH.K
II-B.Sc.(IT)

VIVO FLYING DRONE CAMERA PHONE 2022

A new upcoming smartphone of the Vivo brand whose name is “Vivo Flying Drone Camera Phone 5G 2022”. Who used mobile phones in life, that person must be known that Vivo is the most popular and favourite mobile company in the world. And also know that Vivo is a Chinese technology company headquartered in Dongguan, Guangdong that designs and develops smartphones, smartphone accessories, software, and online services, founded in 2009, in Dongguan, China.

Every year, the Vivo Company provides Some big flagship mobile, middle-class phones, and low-budget high-performance phones. So, customers are waiting for the new smartphone of the Vivo Brand. That’s why, we are talking about a new upcoming smartphone of the Vivo Brand, which is called “Vivo Flying Drone Camera Phone”.

After knowing viral news of a Vivo flagship smartphone, every people who love Vivo mobile, they are searching for the exact release date of the Vivo Flying Drone Camera Phone. But, we are sorry to inform you that, there is no official release date available for this smartphone. The expected release date of the Vivo Flying Drone Camera Phone is 28th December 2021 or it may late to release for features updates or company issues. First, we are talking about Display.

The Vivo upcoming smartphone Flying Drone Camera Phone comes with a 6.9” Inches Super AMOLED Full Touch Screen Display, which is protected by Corning Gorilla Glass 7. Good news for the Vivo Flying Drone Camera Phone mobile lovers, this mobile used display resolutions of 1440 x 3200 Pixels. In the Display section, this mobile also used “Always-on display” which is very helpful for an active user.

Submitted by
VENKATESH.R
II-B.Sc.(IT)

KONGU ARTS AND SCIENCE COLLEGE (AUTONOMOUS), ERODE

DEPARTMENT OF COMPUTER TECHNOLOGY AND INFORMATION TECHNOLOGY

IT BULLETIN

DATE: 30.03.2022

MODULAR DESKTOP PC

Intel NUC 12 Extreme offers two CPU options – a Core i9-12900 and a Core i7-12700 – along with support for full-size 12-inch discrete graphics cards and a full range of input and output ports.

Intel has announced a modular desktop PC, designed for high-end gaming and content creation tasks, powered by its latest 12th generation processors. Packed with the latest hardware components in a compact and modular form factor, the PC is engineered to provide high performance that is usually expected from much larger gaming rigs. It offers enthusiast gamers and creators the ability to create their small-form-factor designs.

The most powerful Intel NUC yet, can be configured with up to 64 GB dual-channel DDR4-3200 MHz SODIMMs memory and high storage using up to three PCIe Gen4 M.2 SSDs. The PC also features two Thunderbolt 4 ports, six USB 3.2 Gen2 ports, two USB 3.1 headers, two USB 2.0 headers, an HDMI 2.0 port, Intel Wi-Fi 6E AX211, Bluetooth 5.2, an SDXC card slot with UHS-II support, three large 92mm fans, as well as a 10Gbps Ethernet port standard; and additional 2.5Gbps Ethernet port on Core i9 processor option.

Additionally, the modular PC features Intel UHD Graphics 770, along with support for PCIe Gen5 x16 graphics cards and backwards compatibility with PCIe Gen4 and Gen3 devices. The device built with flexibility in mind, can offer high performance with 12th generation i9 processor, featuring eight Performance-cores (P-cores) and eight Efficient-cores (E-cores), 24 threads and up to 5.1 GHz turbo boost max frequency. The other variant comes with 12th generation i7 processor, featuring eight P-cores and four E-cores, 20 threads and up to 4.9 GHz turbo boost max frequency.

The pricing of the Core i7 model will start at \$1,150 (about ₹86,500), while that of the Core i9 model will start at \$1,450 (about ₹1,09,000), Intel said, adding that the PC will be available starting in the second quarter of this year.

Submitted by
VISHNUBALAN.N
II-B.Sc.(IT)