NOVA INNOVATIVE COMPSKEY

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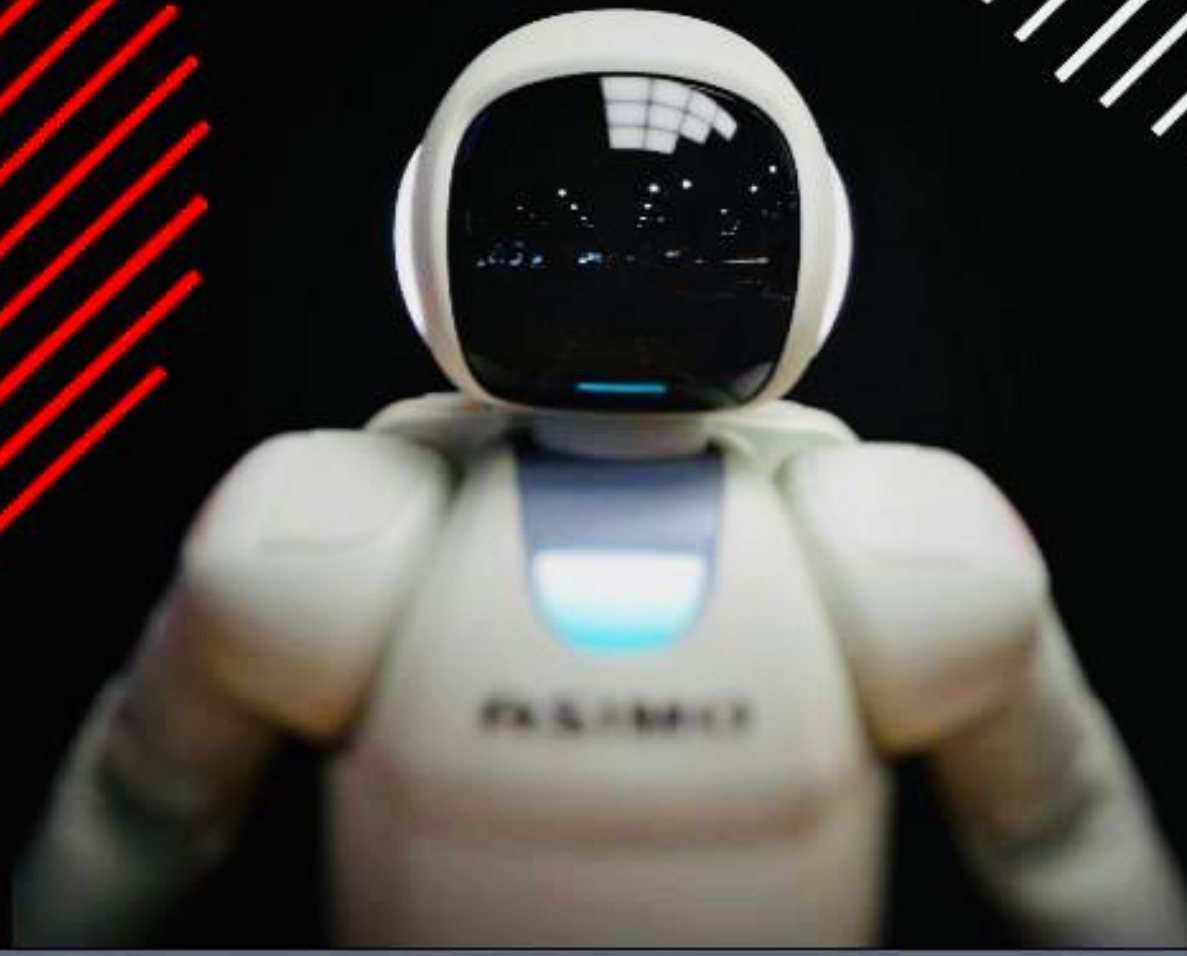
Morph*

Techonological Ascension

Edition-2

AUTOMATION

Robots on the surgical beat



COVID19 MEDICAL AUTOMATION

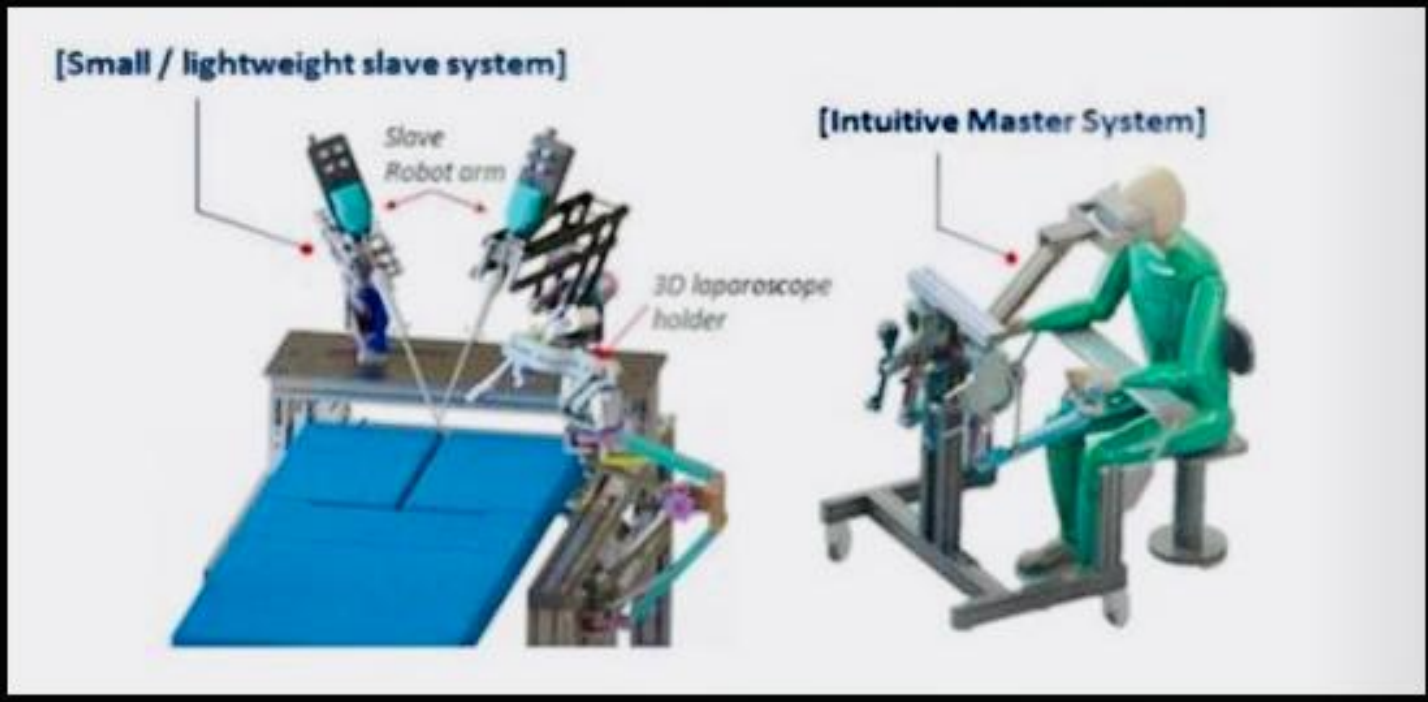
During the covid-19 pandemic when the world came together to find the vaccine for the virus, we had observed the dependency on automation which reduced the time needed to find the vaccine and also reduced the burden on the medical staff as it was used in many aspects in the medical industry. From data science to robotics every single automation technology was used to help humans.

A.I.BOTS

Let us now understand what automation means, Automation is a term used for technology which reduces the overall human input. And it can be categorized into many types:

- Basic automation
- Process automation
- Integration automation &
- AI automation

Surgical Beat

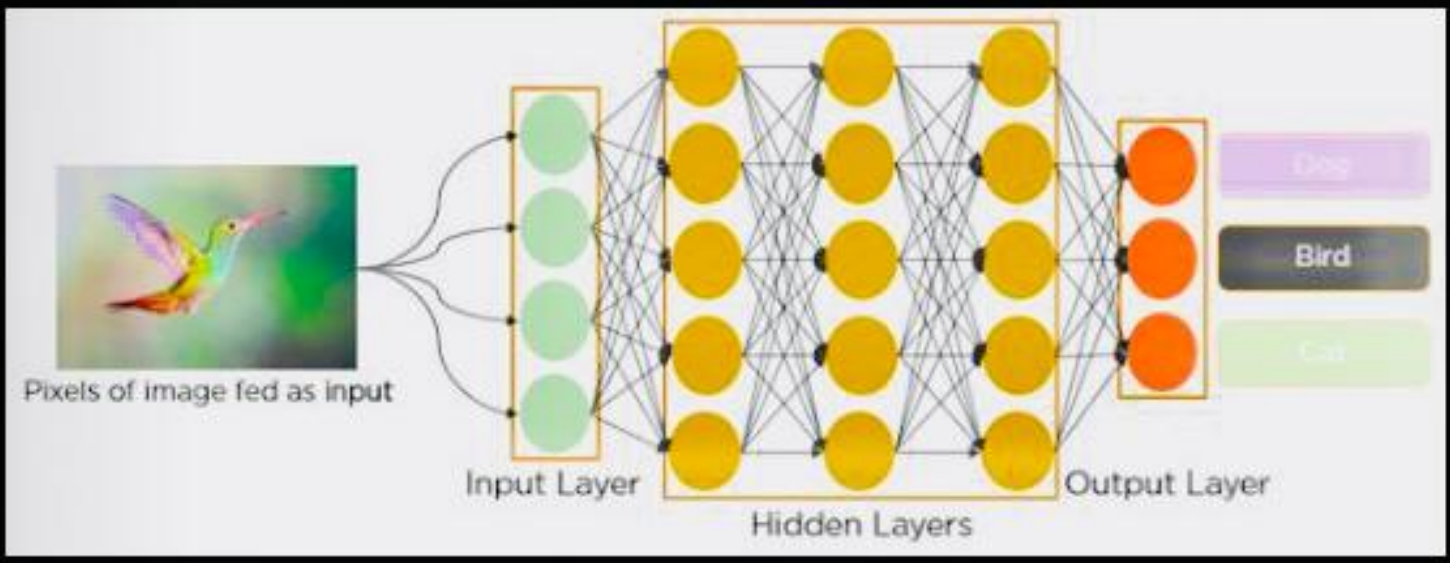


Emerging in the 1980s, the first robots in the medical field provided surgical assistance via robotic arm technologies. Over the years, artificial intelligence (AI)–enabled computer vision and data analytics have transformed medical robots, expanding their capabilities into many other areas of healthcare.

Robots are now used not only in the operating room but also in clinical settings to support healthcare workers and enhance patient care. For example, Delhi's AIIMS hospital has a floor disinfectant and a humanoid robot in its Covid-19 wards and Fortis Hospital, Bengaluru is using an interactive robot to screen patients and medical staff at its entrance.

India's first robotic-assisted surgical procedure took place at a Delhi hospital in 2002. The world's first heart surgery from a remote location was done in India in 2018, by Gujarat's Dr. Tejas Patel, a cardiac surgeon, who with the help of advanced robotics, conducted the world's first telerobotic surgery on a middle-aged woman with blocked artery while sitting 32 kilometres away from the patient.

Artificial Intelligence & Machine Learning:



Artificial Intelligence & Machine Learning:

We all know about smart watches, these are the must if a person is a fitness enthusiast, but recently apple as we all have heard about has come up with a smart watch which has a built in ECG functionality that monitors the wearer's heart. This device used the Machine Learning algorithm to classify heart data gathered with the help of the watch. This algorithm helps in detecting heart diseases with the obtained data.

Apple developed this AI using a deep learning technology known as convolutional neural networks (CNNs), which are inspired by models of how the brain works. CNNs are the basis of many AI applications especially in the field of computer vision. Such neural network technology is now widely available to developers on AI platforms from Microsoft Google, Facebook and many more.

Artificial Intelligence has played a very important role in finding rare genetic disorders and diseases, there are many cases in which the Algorithms with the help of deep learning have helped in analysing millions of pages of data and diagnosing a disease or a disorder which would have been impossible if they were to be done manually by doctors, there was a similar case in India were a rear kind of cancer was found in a patient and was treated successfully, according to reports if a doctor had to go through the same amount of data and come up with the diagnosis he would have taken a few 100 years.

A.I.BOTS

As you can observe this was all possible only with the help of HIT which has turned the time taking process into just a few clicks easy, and we also know about many platforms which provide us with the tablets by just posting these prescriptions, these are the most well-known examples that take place in our day-to-day life.

According to Philip's Future Health Index 2019 report, 76% of healthcare professionals in the country are already using digital health records. Which has been helping doctors to learn more abou the patient's history and heal conditions and are able to diag se them precisely.

HIT (Health Information Technology)

HIT (Health Information Technology):

Health information technology (HIT) is "the application of information processing involving both computer hardware and software that deals with the storage, retrieval, sharing, and use of health care information, health data, and knowledge for communication and decision making".

You might have seen many advertisements on your T.V which has explained how taking appointments and a prescription from a doctor can be done with just a click from anywhere in the world. These appointments can even be done with the help of chatbots.

Conclusion:

The world is moving towards automation at a very fast pace, and our country is also playing a major part in innovation and has been a major contributor to the word of automation in every field and very importantly in medical field after the covid-19 pandemic. We were able to overcome a pandemic only with the help of innovation and technology, we were able to find vaccinations and were able to do many other tasks with its help. We must work together with technology to make our lives easier.

INDIAN

In telecommunications, 5G is the fifth-generation technology standard for broadband cellular networks, which cellular phone companies began deploying worldwide in 2019, and is the planned successor to the 4G networks which provide connectivity to most current cellphones Faster connectivity speeds, ultra-low latency and greater bandwidth is advancing societies, transforming industries and dramatically enhancing day-to-day experiences. Services that we used to see as futuristic, such as e-health, connected vehicles and traffic systems and advanced mobile cloud gaming have arrived.

With 5G technology, we can help create a smarter, safer and more sustainable future.
5G runs on the same radio frequencies that are currently being used for your smartphone, on Wi-Fi networks and in satellite communications, but it enables technology to go a lot further.

Beyond being able to download a full-length HD movie to your phone in seconds (even from a crowded stadium), 5G is really about connecting things everywhere – reliably, without lag – so people can measure, understand and manage things in real time.

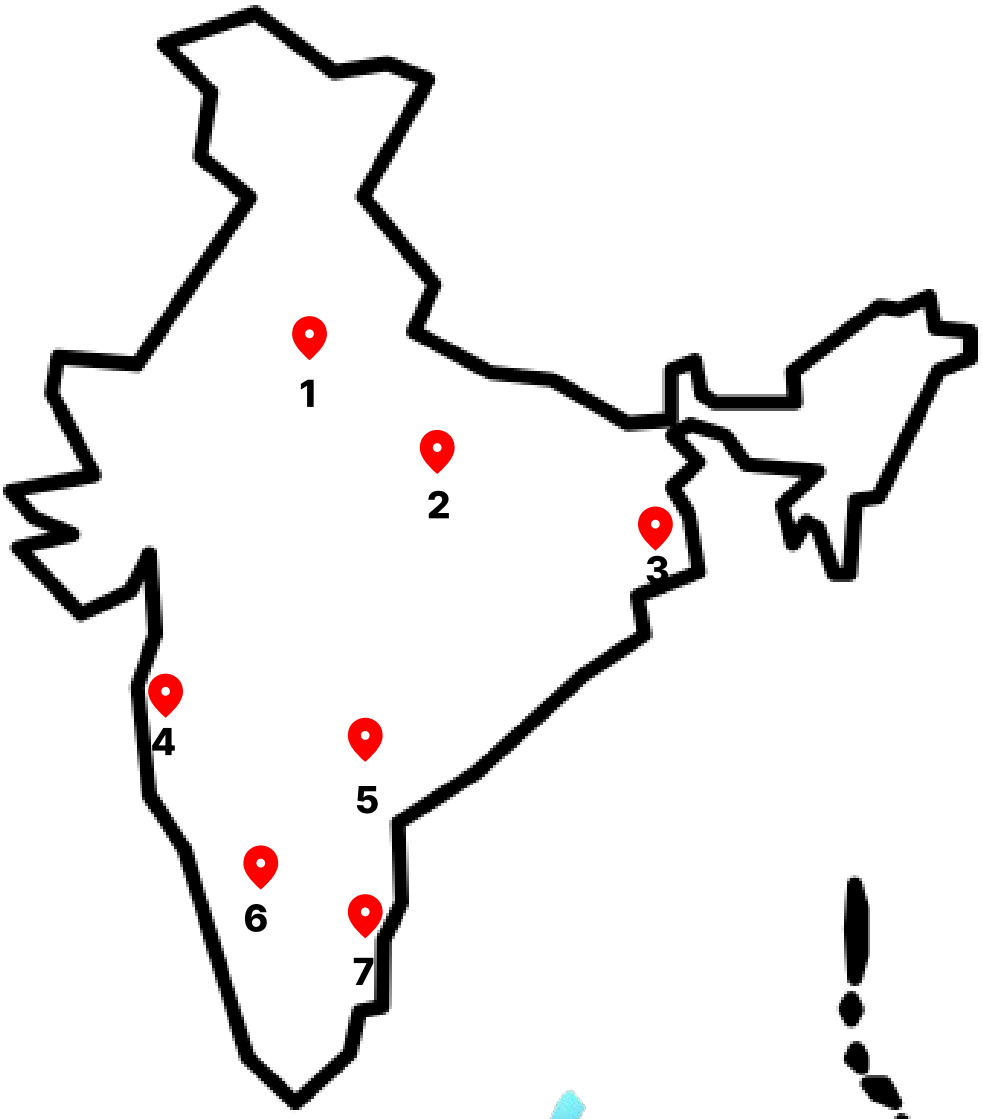
This has enormous potential – and together, we will take it to the next level.

Jio and Airtel 5G are currently available in many Indian cities. Telecom companies are gradually rolling out 5G to more cities as they are becoming 5G ready. Almost every day, we get to hear about 5G service reaching more areas. It is good to see that the companies are keeping their promises and spreading 5G services across India at a faster rate.

As of now, there is no charge on the usage of 5G services from Airtel and Jio. Telecom companies are offering it for free and people don't even need to change their SIM cards for 5G, which is great. The latest network is promised to offer 10 times more speed than 4G. While not everyone may get this speed (this is something we saw during trials), people will definitely get a better experience with 5G.

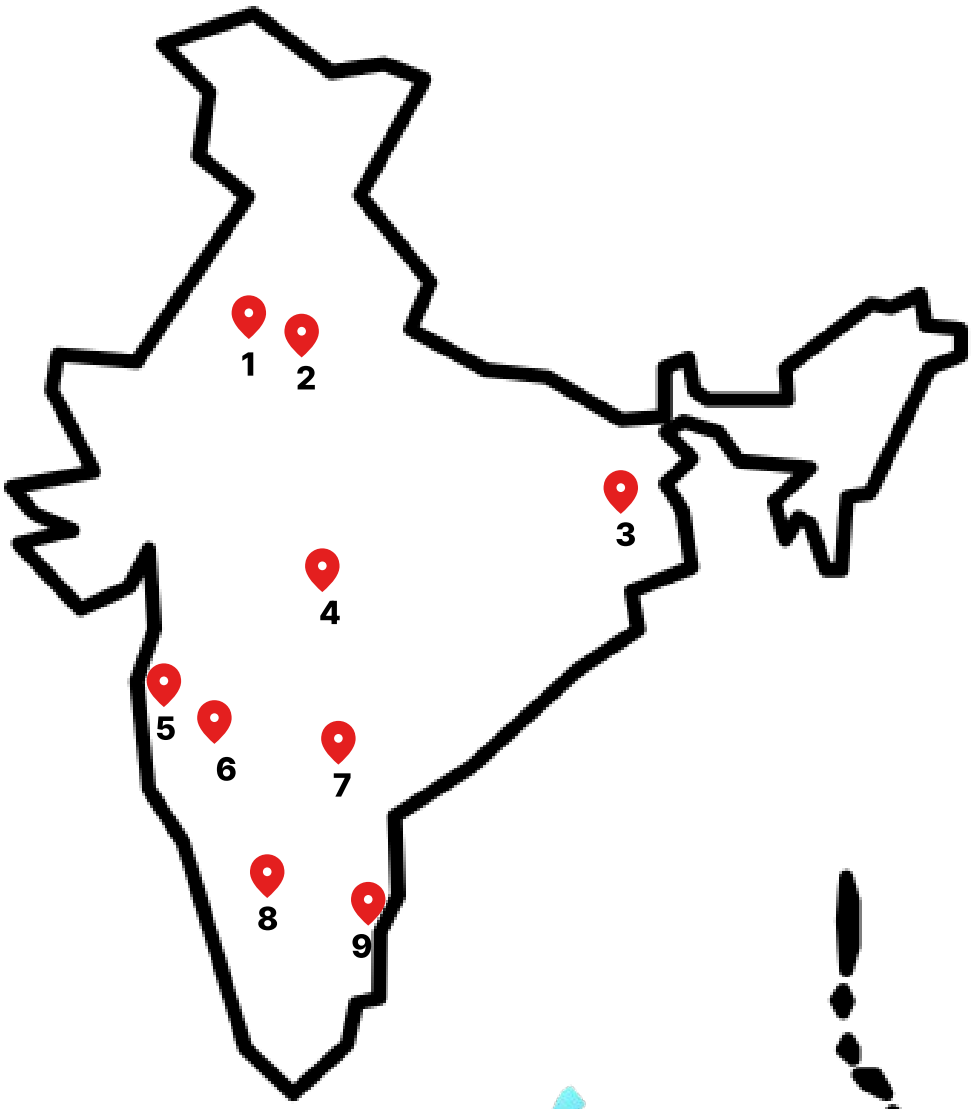
Locations

airtel



Jio 5G: Indian cities
5-Hyderabad
6-Bengaluru
4-Mumbai
7-Chennai
2-Varanasi
3-Kolkata
1-Delhi,Gurugram,Noida,Ghaziabad,Faridabad

Locations



Airtel 5G: Indian cities
6-Pune
2-Delhi
5-Mumbai
9-Chennai
7-Hyderabad
8-Bengaluru
1-Panipat,Gurugram
3-Siliguri
4-Nagpur


Central
Bank
Digital
Currency

“CBDC (Central Bank Digital Currency) is India's own e-rupee program that commenced on Nov 1st, 2022. This is India's attempt at a digital form of currency that is already in use. A bank account is not needed in order to make transactions using CBDC. Just like crypto-currency, CBDCs cannot be damaged or lost in any physical form. However, whether CBDC will be blockchain-enabled or not is uncertain as of now.”

CBDCs can be of two types: retail (CBDC-R) and wholesale (CBDC-W).

CBDC-R would be used for retail transactions as an electronic form of cash.

CBDC-W is expected to reduce transaction costs and make the inter-bank markets more efficient.

CBDCs seek to achieve what crypto-currencies like Bitcoin, Etherium have in the last years, i.e, eliminating the need of a third party proof of transactions to validate payments in a decentralized system. New technology-enabled currency could greatly increase the scalablity, efficient and risk-free transactions.

Several CBDC projects have already been implemented by central banks like the Central Bank of Nigeria, Bank of Bahamas, Eastern Caribbean Central Bank and the Bank of Jamaica.

With this system already being implemented, India is in a unique position to implement it's own digital currency, experiment and provide recommendations to other countries as CBDCs are adopted by more and more countries.

RBI

RBI is still cautious about the concept of digital rupee as the potential implications and risks of CBDCs are still unknown.
The RBI could also implement frameworks to ensure anonymity and protect transaction data by creating a centralized system and facilitate data sharing. Due to India's vast and varying economic market and socio-economic conditions, it is important to weigh out the advantages and disadvantages of a digital currency before there are any repercussions.

Credits

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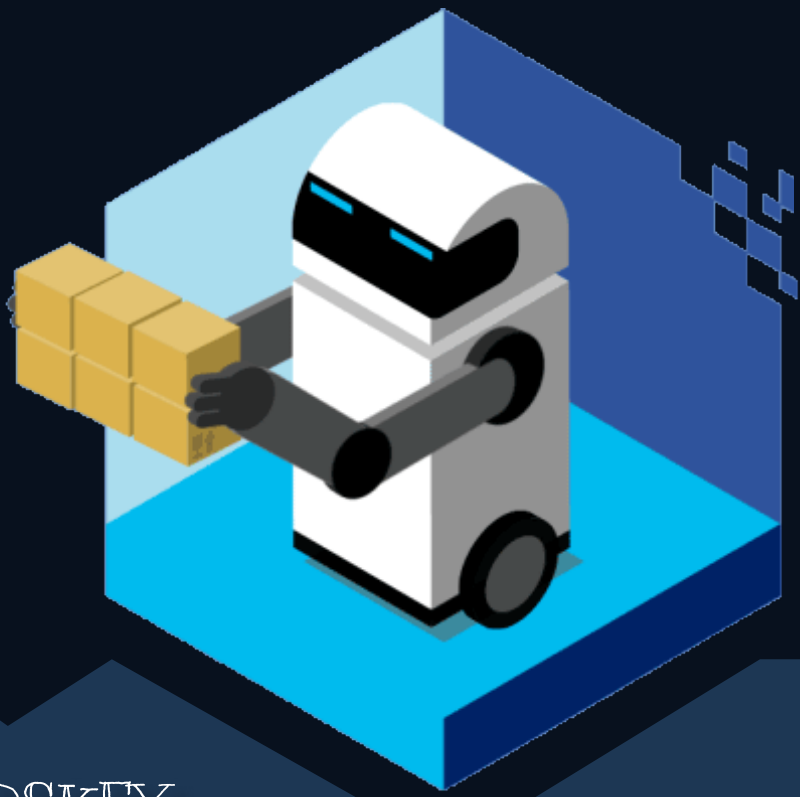

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