



MAGAZINE

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Department of
CSE

Byte Quest



ZERO TRUST



HUMAN AUGMENTATION



5G-HOW IT WILL SHAPE OUR FUTURE



DESIGN SYSTEMS(SaaS)

Department Vision

To be a center for academic excellence in the field of Computer Science and Engineering education to enable graduates to be ethical and competent professionals.

Department Mission

To enable students to develop logic and problem solving approach that will help build their careers in the innovative field of computing and provide creative solutions for the benefit of society.

FACULTY COORDINATORS

S. KOMAL KAUR (ASST. PROFESSOR)
T. NISHITHA (ASST. PROFESSOR)

4TH YEAR

K. ANISHA(CSE-B)
ABHINAV (CSE-A)

3RD YEAR

AKASH(CSE-C)
IMRAN MIRZA(CSE-A)
NISCHALA (CSE-B)

2ND YEAR

CHANDRASHEKAR(CSE-B)
SATWIKA(CSE-A)
VARUN(CSE-C)
TARUN KRISHNA(CSE-B)



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ZERO TRUST

Created by John Kindervag, Zero Trust is a security concept of organizations based on verifying everything which is trying to connect to its systems before access grant. It was created based on the realization that traditional security models operate on the outdated assumption that everything inside an organization's network should be trusted.



In Zero Trust, you identify a “Protect Surface”, which is made up of the network’s most critical and valuable data. With the protect surface identified, you can identify how traffic moves across the organization in relation to protect surface. You should put controls in place as close to the protect surface as possible, creating a “microperimeter” around it. You can create a microperimeter by deploying a segmentation gateway, to ensure only known, allowed traffic or legitimate applications have access to the protect surface. This added layer of security is critical as companies increase the number of endpoints within their network and expand their infrastructure to include cloud-based applications and servers.

SYSTEM DESIGN(SaaS)

Design Systems are collections of modular, reusable, components, and patterns. They are based on the two cornerstone concepts of the industrial revolution:

1. Modularity
2. Sandardization.

Modularity and standardization are the reason why factories, taking advantage



of economies of scale, are able to scale their production to mass-market levels. It makes sense to produce many units of a limited number of pieces that you can arrange in different ways. There’s less operational complexity, your workers and machines specialize and become more efficient, and reparations are much more simple to do. There are nearly infinite examples of modularity and standardization in the physical world, LEGO being my all-time favorite. But what does LEGO have to do with Design Systems and building SaaS products? Pretty much everything, actually. design systems provide speed and consistency to the system for consuming less time and of low cost materials .



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5G HOW IT WILL SHAPE OUR FUTURE

Facing technical difficulties like network issues, lag in your voice or video? Is your video buffering irritating you? It's time for you to bid farewell to all these as we're soon going to have a 100 times faster network than the current one(4G)! The savior who is going to help us is 5G; Fifth Generation Network. It is going to offer high bandwidth, low latency, offers zero

lag, super-sonic speeds a million devices in one square mile online.



With 5G in the picture, we can replace humans and make the cars driverless. With the help of the sensors, we can make cars communicate with each other and avoid accidents. They'll need to talk to sensors embedded in traffic lights, road signs, and the pavement to navigate more safely. And they'll need to get responses instantly i.e. using a low latency 5G network. Once driverless infrastructure is in place, the streets may become less crowded and the air less polluted.

With the help of 5G, physicians can perform surgeries from hundreds of miles away. This could be made possible because of the High-speed wireless networks, a 5G offers. Not only this we can have virtual appointments, enabled by low-latency and HD-quality wireless networks. Wearable or implanted medical devices will capture your vitals and transmit them to health care providers, allowing them to detect early warning signs of heart attacks or other life - threatening events.

The benefits of 5G will enhance the efficiency of businesses while also giving users faster access to more information. Depending on the industry, some businesses can make full use of 5G capabilities. Since 5G enables ultra-high quality, simultaneous streaming of live events so we can experience 3D format in terms of sports and entertainment. 5G can increase efficiency in farming by guiding autonomous farm equipment. It can also be used to operate drones to detect changes in plant health, soil quality, and moisture, and Most probably by the end of 2021 we might experience 5G services.

So dear readers, gear yourself up as we're soon going to experience something new and interesting! apply the exact amount of pesticide, water, or fertilizer needed.

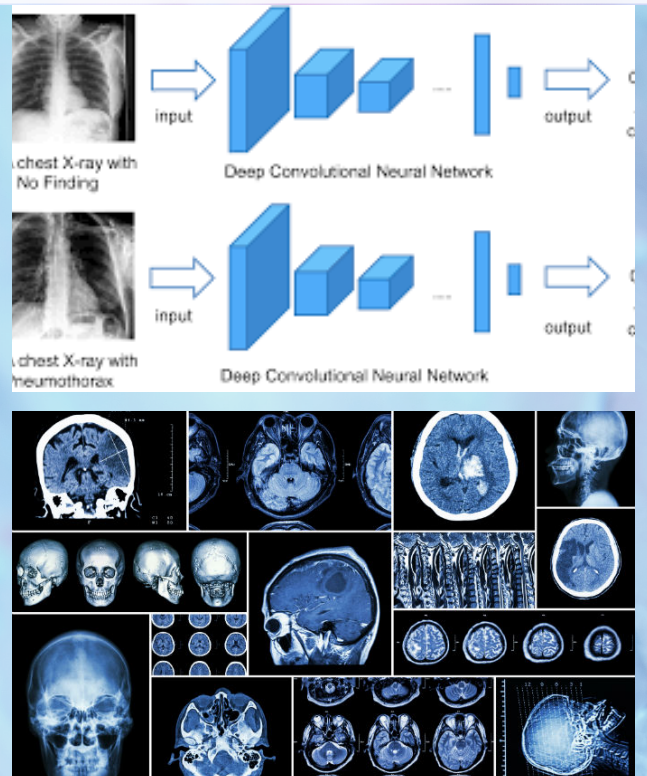


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DEEP LEARNING IN X-RAY

Scientists from the United States Department of Energy's (DOE) Argonne National Laboratory are using deep learning and artificial intelligence strategies to upgrade the current Advanced Photon Source (APS) and visualize X-ray data in three dimensions. Researchers have developed a new computational framework called 3D-CDI-NN. The framework has demonstrated it can create 3D visualizations from data

collected at the APS significantly faster than traditional methods. Coherent diffraction imaging (CDI) is an X-ray technique that bounces ultra-bright X-ray beams off samples. The beams of light then are collected by detectors as data and are turned into images. According to Mathew Cherukara, leader of the Computational X-ray Science group in Argonne's X-ray Science Division (XSD), the current detectors only capture some of the beam's information. After testing 3D-CDI-NN's ability to fill missing information, scientists saw that the network can reconstruct images with less data than typically required to compensate for information that was missed by the detectors. The incorporation of this new technology has the potential to advance 3D imaging technologies regarding biological structures.



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