



# **SNS COLLEGE OF ENGINEERING**

Kurumbapalayam (Po), Coimbatore – 641 107

**An Autonomous Institution**

Accredited by NBA – AICTE and Accredited by NAAC – UGC with ‘A’ Grade  
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

## **DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING-IOT Including CS&BCT**

**COURSE NAME : 19SB602 FULL STACK DEVELOPMENT FOR NEXT  
GENERATION IOT**

**III YEAR / VI SEMESTER**

**Unit V - NG-IoT-Next Generation Internet of Things**  
**Topic :Future Trends in IoT**



## FUTURE TRENDS IN IOT

### Evolving IoT-enabled AI Applications

•IoT applications are everywhere around us, like wearables, smart homes, industrial settings, etc. IoT focuses on devices interacting using the internet while [Artificial Intelligence](#) makes the devices learn from their data and experiences. Combining AI and IoT can redefine the way industries, businesses, and economies function. AI and IoT can be combined to create intelligent machines that simulate smart behavior and offer support in decision-making.



- IoT-enabled AI Applications can provide commercial solutions. Such applications can assist businesses to integrate IoT and AI technologies into their future investment decisions.
- IoT and Artificial Intelligence will reach more industries and business settings as they can help automate processes, reduce downtime, reduce operating costs, and increase efficiency.
- Some examples of AI and IoT include self-driving cars, robots in manufacturing, and smart thermostat solutions.



## **Internet of Things fueled with 5G technology and Edge Computing**

- 5G is the latest development in cellular technology. It brings improvement in speed and has the ability to transmit data using medium and high-frequency signals over the airwaves.
- 5G will be a revolutionary technology for IoT. It will provide new possibilities for centralizing data streams, real-time data processing, lower latency, network slicing, and higher transmission speed.



- Edge computing allows connected devices to share, analyze, and keep data locally. It is a hybrid approach to data processing that's reshaping the future of IoT.
- The concept of edge computing promises the notion of distributed intelligence. It will transform the way connected objects are designed, by adding the processing power for a huge number of devices in the infrastructure around us.





# The Future of the Internet of Things with Blockchain

- A rise in the adoption of [blockchain technology](#) is one of the latest IoT trends.
- IoT devices are considered an easy target for DDoS attacks.
- In 2021, blockchain will prove to be the most reliable solution to ensure data protection.
- It will help address some of the IoT security and scalability challenges by providing a way for information to be securely recorded and shared by a community of users.



# Transition to Digital Healthcare with IoT

- The Covid-19 pandemic has significantly aided IoT's market expansion in the healthcare industry.
- Due to the wide capabilities of IoT in healthcare, like tracking, authentication, and data collection, its exponential growth is likely to rise.
- The Covid-19 outbreak has resulted in demand for a new standard for healthcare services.
- There has been a surge in the adoption of digital health devices like wearable and sensors that monitor the vitals of patients.
- As more people look for affordable and useful digital health devices, the demand for IoT devices that can monitor patients remotely will rise.





## Transition to Digital Healthcare with IoT

- These devices will become more advanced and will tell healthcare professionals all the details about their patients in real-time.
- The use of connected health care solutions has been recommended by professionals to manage illnesses and monitor health as more and more people stay at home to isolate themselves.
- IoT can help transition to digital healthcare by providing connected healthcare solutions which can provide accurate diagnosis and treatment. It can also help in emergency response, fitness assistance, and making testing and vaccines more accessible.





# **IoT will enable Better Workforce Management**

- The coronavirus has lead to more employees working from home.
- Most of the remote work requires internet-connected devices such as laptops, webcams, microphones, and smartphones. Companies such as Microsoft (Teams) and Zoom are capitalizing on the trend of moving away from physical work by allowing the workforce to connect remotely.
- In 2021, many companies will be adopting IoT devices to monitor the attendance and tasks of employees. The data from these devices can be integrated into the cloud and be used to monitor the safety of employees.



# A rise in the demand for Smart Home devices

- There has been significant adoption of smart home devices in recent years. These smart home devices consist of a wide range of technologies and are interconnected by the IoT, voice-first technology, AR ([Augmented Reality](#)), and VR (Virtual Reality).
- The demand for smart home devices will continue as people want to make their homes more interactive, safe, and secure.
- Energy consumption is another reason for the smart home devices market growth.



# **Digital Twin Technology**

- A digital twin is a virtual representation of a real object or process. It can be used for testing, monitoring, diagnosing, optimization, calculating, and analyzing asset performance and utilization.
- Digital twin technology will play a vital role in industrial IoT application deployments. It will help in transforming manufacturing processes and provide different ways to reduce costs, monitor assets, reduce downtime, increase consistency in the production line, and enable the creation of connected products.
- In 2021, we can see digital twins combined with IoT expand to more applications, use cases, and industries.



# CONCLUSION

The Internet of Things is not just connecting devices — it's reshaping industries, improving lives, and driving smarter, data-driven decisions.

As technologies like AI, 5G, edge computing, and blockchain evolve, IoT will become more intelligent, secure, and sustainable.

The future of IoT lies in its ability to blend innovation with responsibility — creating a world that's not only smart, but also safe and inclusive.



Any Query????

Thank you.....