



# VASIREDDY VENKATADRI INSTITUTE OF TECHNOLOGY (AUTONOMOUS)

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**DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING**



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**DEPARTMENT VISION:** To produce globally competitive and socially responsible engineering graduates and to bring out quality research and education, generating knowledge in the frontier areas of Electronics and Communication Engineering

### DEPARTMENT MISSION:

- To achieve self-sufficiency on all fronts to ensure qualitative Teaching-Learning practices.
- To provide quality education, student-centred Teaching-Learning processes and state of art infrastructure for professional aspirants hailing from both rural and urban areas.
- To impart technical education that encourages independent thinking, developing strong domain knowledge, contemporary skills and attitude towards holistic growth of young minds.
- Responsiveness to both local and global industry needs and creating opportunities through incubation and implementation of innovative programs
- To serve the community as disciplined responsible citizens in a rapidly changing and expanding global community.
- Evolving this organization into a centre of academic and research excellence.

### EDGE COMPUTING:

Edge computing is revolutionizing data processing and bolstering real-time analytic by bringing computational power closer to where data is generated, processed, and consumed. Edge computing also enables organizations to handle vast amounts of data generated by IoT devices, sensors, and other connected devices more efficiently. Instead of sending all raw data to the cloud for processing, edge devices can pre-process and filter data locally, sending only relevant information to the cloud for further analysis. Edge computing enhances data security and privacy by allowing sensitive data to be processed locally, without necessarily being transmitted to the cloud.



Edge Computing is significantly transforming data processing and enhancing real-time analytic by - Reducing Latency, Improving Efficiency, Enhancing privacy, Enabling Offline Operation, and Providing Real-Time Insights.

### TECHNOLOGIES:

- **Edge Devices:** These are devices located at the edge of the network, such as IoT sensors, gateways, and edge servers. They collect data from sensors or devices and perform initial processing before sending it to centralized servers or the cloud.
- **Edge Connectivity:** Technologies such as 5G, Wi-Fi 6, and low-latency satellite connections enable fast and reliable communication between edge devices and centralized systems.

### APPLICATIONS:

- **IoT and Industrial IoT (IIoT):** It enables real-time processing of sensor data in IoT and IIoT applications.
- **Healthcare:** Edge computing supports remote patient monitoring, and medical device integration.

**QUOTE:** The Beauty of Edge Computing lies in its ability to bring the Cloud down to Earth.

**ELECTRONICS AND COMMUNICATION ENGINEERING – Systemizing Smart Society**

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