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(57) Abstract :
Sophisticated monitoring techniques are necessary to preserve biodiversity and natural resources in light of the growing threats to forest ecosystems. This project describes a cutting-edge forest monitoring system that makes use of image processing and Internet of Things (IoT) technologies. Numerous sensors are integrated into the system, such as accelerometers to identify vibrations brought on by unauthorised tree cutting, fire detection sensors, rain sensors, radiation sensors, and ultrasonic and PIR sensors for tracking animal density. Additionally, tree density is assessed using image processing techniques. Through a Wi-Fi module, the data collected by these sensors is sent to the cloud, making analysis and access simple. Thing View is a mobile application that provides a unified platform for real-time data monitoring in order to increase accessibility. This tool enables management teams and forest workers to make well-informed choices and carry out preventative conservation actions. The suggested approach to forest monitoring, which combines IoT, cloud computing, and image processing, is innovative, effective, and scalable, promoting sustainable environmental management and preservation.

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