IIT-I developing surveillance system to detect forest fire

Indore: Indian Institute of Technology (IIT), Indore is developing a surveillance system using machine learning to effectively detect forest fires and eliminate false positives sent by sun heat or humidity.

The team of researchers at IIT, Indore is working on developing extremely 'lean' machine learning algorithms that can be deployed on Wireless Sensor Network (WSN) motes with high probability of correctly detecting forest fires. WSN is a network of spatially dispersed sensors that monitor and record the physical conditions of the environment and pass the collected data to a central location.

The principal investigator of the research Dr. Abhishek Srivastava, associate professor, Computer Science department, IIT, Indore said, "Lean algorithms for classification, anomaly detection, and localization have already been developed and deployed on a pilot WSN network within the IIT Indore campus forest area. Deployment and testing of these algorithms at the Melghat Tiger Reserve will be conducted once the pandemic induced lockdowns are completely lifted." Researchers are training the machine learning algorithms to minimize incidents of false positives generated due to heat on a hot summer day or humidity assuming a fire and causing huge loss of resources and time. The algorithms will be deployed on the back-end cloud with infinite resources and send back signals from individual sensors. The research team includes PhD students Arun Kumar, and Ankit Jain, masters' students Prarthi Jain and Uttkarsh Aggarwal and an undergraduate student Seemandhar Jain. TNN