

Monitoring through AI Based Remote Access Vehicle in Hydro Power Plant

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Abstract: *The development of hydroelectric power is essential to the production of sustainable energy. Continuous monitoring and maintenance are necessary to guarantee the safe and effective functioning of hydroelectric plants. A revolutionary method for improving the security, effectiveness, and monitoring capacities of hydroelectric power plants is presented in the project "Monitoring through AI-Based Remote Access Vehicle in Hydro Power Plant." This creative project uses cutting-edge technologies, such as Bluetooth connectivity, artificial intelligence (AI), Raspberry Pi, and sensor systems, to develop a remotely controlled car that is specifically designed to meet the demands of hydroelectric power plant conditions. Real-time object detection and obstacle avoidance are made possible by this configuration, guaranteeing safe passage across the complex industrial infrastructure. Incorporating a temperature sensor also makes it easier to identify fire situations early on, while a water-detecting sensor protects against water leaks. By utilizing AI algorithms for object recognition, vehicles can detect and react to impediments in a proactive manner, hence decreasing the likelihood of accidents. As sentinels, the temperature and water leakage sensors keep an eye on things constantly and send out alarms right once if anything seems out of the ordinary. Reduced reliance on in-person inspections due to remote monitoring capabilities results in lower costs and more dependability. To sum up, this initiative tackles important issues pertaining to hydro power plant maintenance, efficiency, and safety*

Keywords: Water-detecting sensors, temperature sensors, AI algorithms, proactive detection, accident prevention, remote monitoring, lower costs, dependability, efficiency, and safety are just a few of the features that come with sensor systems, hydroelectric power, sustainable energy, continuous monitoring, maintenance, AI-based remote access vehicle, Bluetooth connectivity, Raspberry Pi, and artificial intelligence