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Protect Trains from Natural Disasters and Track Distractions using IoT & Manual Signals

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Abstract: A hybrid approach to safeguarding trains from natural disasters and track disruptions using IoT technology and manual signaling. Train accidents, particularly in hilly regions and near water bodies, pose significant risks to passenger safety. The proposed system integrates IoT- based sensors for real-time detection of landslides, earthquakes, floods, and cyclones, enabling automatic alerts and train redirections. Additionally, manual signaling methods, including visual inspections, flagging, whistle signals, and radio communication, enhance situational awareness. The integration of these technologies improves hazard prediction and emergency response. Future developments could expand IoT capabilities, incorporate machine learning for predictive analytics, enhance real-time communication, and automate response mechanisms to minimize human error and improve railway safety

Keywords: natural disasters

