Railway Track Crack Detection System using Aurdino and Ultra Sonic Sensors

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Abstract: *Railway track cracks are one of the major causes of train accidents. Early detection of cracks in railway tracks is essential to ensure passenger safety and prevent damage to trains. This project proposes a Railway Track Crack Detection System using Hybrid Multi-Sensor Fusion and Deep Learning. The system uses multiple sensors such as vibration sensors, ultrasonic sensors, and cameras to detect cracks on railway tracks. The collected data is analyzed using deep learning algorithms to identify cracks accurately. When a crack is detected, the system sends an alert to railway authorities for immediate action. This system improves railway safety, reduces manual inspection, and ensures real-time monitoring of railway tracks.*