

INTELLIGENT CPS RESILIENT AND SUSTAINABLE PUBLIC INFRASTRUCTURE MANAGEMENT

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Intelligent Cyber-Physical Systems (CPS) play a vital role in ensuring resilient and sustainable public infrastructure amid growing urbanization and environmental challenges]. This work explores the integration of artificial intelligence and machine learning within CPS to enable real-time monitoring, predictive analysis, and adaptive control of critical infrastructures such as energy, water, and transportation systems. By leveraging sensor networks, data-driven models, and feedback control mechanisms, the proposed framework enhances fault detection, resource optimization, and rapid response to disturbances. The intelligent CPS approach improves operational efficiency, reduces environmental impact, and strengthens infrastructure resilience, thereby contributing significantly to long-term societal wellbeing and sustainable urban development.
