

Cyber Physical Systems and their Applications in Smart Cities

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Abstract: *Cyber-physical systems (CPS) have emerged as a critical technology for the development and advancement of smart cities. This research paper explores the concept of CPS and its applications in the context of smart cities. The paper provides an in-depth analysis of how CPS enables the integration of physical and digital systems, leading to enhanced efficiency, sustainability, and quality of life in urban environments. The paper further examines various application areas of CPS in smart cities, including transportation, energy management, public safety, and infrastructure optimization. The research also discusses the challenges and potential future directions for CPS in the context of smart cities. Overall, this paper highlights the transformative potential of CPS in shaping the cities of the future.*

Keywords: Cyber-physical systems, smart cities, integration, efficiency, sustainability, quality of life, transportation, energy management, public safety, infrastructure optimization