

Distributed Control of Cyber Physical System on Various Domains: A Critical Review

ABSTRACT

Cyber-Physical System (CPS) is a symbol of the fourth industrial revolution (4IR) by integrating physical and computational processes which can associate with humans in various ways. In short, the relationship between Cyber networks and the physical component is known as CPS, which is assisting to incorporate the world and influencing our ordinary life significantly. In terms of practical utilization of CPS interacting abundant difficulties. Currently, CPS is involved in modern society very vastly with many uptrend perspectives. All the new technologies by using CPS are accelerating our journey of innovation. In this paper, we have explained the research areas of 14 important domains of Cyber-Physical Systems (CPS) including aircraft transportation systems, battlefield surveillance, chemical production, energy, agriculture (food supply), healthcare, education, industrial automation, manufacturing, mobile devices, robotics, transportation, and vehicular. We also demonstrated the challenges and future direction of each paper of all domains. Almost all articles have limitations on security, data privacy, and safety. Several projects and new dimensions are mentioned where CPS is the key integration. Consequently, the researchers and academicians will be benefited to update the CPS workspace and it will help them with more research on a specific topic of CPS. 158 papers are studied in this survey as well as among these, 98 papers are directly studied with the 14 domains with challenges and future instruction which is the first survey paper as per the knowledge of authors.