Special Issue

Computers and Electrical Engineering

Special Issue on Cloud Robotics for Industrial Applications

Introduction

Recently, with the development of some emerging technologies (e.g., cloud computing, industrial wireless networks, and big data), cloud robotics is attracting increased interest from academia, governments, and industry worldwide for its large-scale, energy-saving and efficient characteristics, powerful analysis and other excellent performance. For instance, involved with cloud technologies, multi-robot systems with limited computing resources are able to finish more complicated tasks (e.g., SLAM, navigation, and grasping) with better accuracy and higher performance. However, complex industrial systems' inherent functions and features (e.g., changes in workload, process control, environment configuration, and resource requirements) also bring new problems and challenges in the following aspects: 1) resource allocation and scheduling methods for cloud-based intelligent robotics; 2) decision making for cloud-based distributed systems; and 3) methods and evaluation for service quality assurance.

Topic

This special issue has a wide scope that includes the development of cloud robotics, current applications, analysis of key technologies, solutions put up with to solve discussed problems and prospects for the future development of cloud robotics. Topics of interest include the following.

- Optimization of the allocation of computing resource
- Study of M2M, M2C communication
- Sensor networks arrangement
- Data interaction between robot and cloud platform
- Service quality guarantee methods
- Robot cooperative learning
- Cloud security to deal with on-line attack
- Open source and sharing
- Big data for cloud robotics
- Data mining for cloud robotics
- Cloud storage for cloud robotics
- Study of reasonable cloud framework
- Neuromorphic computing and its application to cloud robotics
- Big data over cloud RAN
- Computational science for automatic problem solving

- Application of cloud robotics

Manuscripts should describe original and previously unpublished results which are currently not considered for publication in any other journal. All the manuscripts shall be submitted at http://ees.elsevier.com/compeleceng/ using the Article Type "**SI-cria**", and will undergo a peer-review process.

Important Dates

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