

Special Issue

Swarm Robotics

Message from the Guest Editor

Swarm robotics is a new approach to coordinate the behaviors of large numbers of relatively simple robots in a decentralized manner. It is based on the use of local rules and robots that are simple in comparison to the complexity of the task to achieve, and is inspired by social insects. Large numbers of simple robots can perform complex tasks in a more efficient way than a single robot, giving robustness and flexibility to the group. Robotic systems built on swarm intelligence show high efficiency, parallelism, scalability and robustness. The area of swarm robotics will also benefit from the Internet of Things (IoT). The potential applications of swarm robotics include tasks that demand miniaturization, like distributed sensing tasks in micro machinery or the human body. On the other hand, swarm robotics may be suited to the tasks that demand cheap designs, such as mining or agricultural foraging. Swarm robotics can be also involved in tasks that require large space and time costs and are dangerous to human beings or the robots themselves, such as post-disaster relief, target searching, or military applications.

Guest Editor

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