Object Sorting and Collective Aggregation in Swarm Robotics

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Abstract: This seminar will summarize recent work on the problems of object sorting and clustering, as well as robot aggregation. These tasks are completed by swarms of robots using only local sensing and no communication. In contrast to most work in swarm robotics, our approach is to propose algorithms that yield better performance by increasing the spatial awareness of individual robots. In particular, our algorithms assume the robots have some ability to navigate locally based on odometry or return to important places in their environment through visual homing.