

Parallel and Distributed Map Merging and Localization

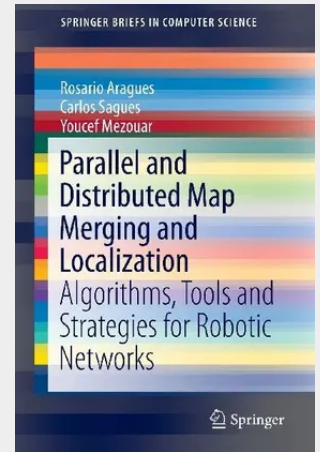
Algorithms, Tools and Strategies for Robotic Networks

This work examines the challenges of distributed map merging and localization in multi-robot systems, which enables robots to acquire the knowledge of their surroundings needed to carry out coordinated tasks. After identifying the main issues associated with this problem, each chapter introduces a different distributed strategy for solving them.

In addition to presenting a review of distributed algorithms for perception in localization and map merging, the text also provides the reader with the necessary tools for proposing new solutions to problems of multi-robot perception, as well as other interesting topics related to multi-robot scenarios.

The coverage is largely self-contained, supported by numerous explanations and demonstrations, although references for further study are also supplied. The reader will not require any prior background knowledge, other than a basic understanding of mathematics at a graduate-student level.

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