

Augmented Reactive Mission And Motion Planning Architecture: Cognitive Science

This book provides a comprehensive overview of the latest advances in augmented reactive mission and motion planning (ARMMP), a rapidly growing field that combines cognitive science, artificial intelligence, and robotics. The book covers the theoretical foundations of ARMMP, including topics such as cognitive architectures, planning algorithms, and human-robot interaction. It also presents a wide range of applications of ARMMP, such as autonomous navigation, human-robot collaboration, and disaster response.



Autonomy and Unmanned Vehicles: Augmented Reactive Mission and Motion Planning Architecture (Cognitive Science and Technology) by David M.W. Powers

★★★★★ 5 out of 5

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Cognitive Architectures

Cognitive architectures are computational models of the human mind. They are used to understand how humans perceive, reason, and act. Cognitive architectures have been used to develop a variety of ARMMP systems, such as autonomous navigation systems that can adapt to changing environments and human-robot collaboration systems that can work together to complete tasks.

Planning Algorithms

Planning algorithms are used to generate plans for robots to follow. Planning algorithms can be classified into two main types: deliberative planning and reactive planning. Deliberative planning algorithms generate plans that are complete and guaranteed to be safe. Reactive planning algorithms generate plans that are fast and can be executed in real time. ARMMP systems often use a combination of deliberative and reactive planning algorithms to generate plans that are both complete and safe, and can be executed in real time.

Human-Robot Interaction

Human-robot interaction is a key area of research in ARMMP. Human-robot interaction is concerned with how humans and robots can work together to complete tasks. ARMMP systems often use a variety of human-robot interaction techniques, such as natural language processing, speech recognition, and gesture recognition, to allow humans to interact with robots in a natural and intuitive way.

Applications

ARMMP has a wide range of applications, such as:

- Autonomous navigation

- Human-robot collaboration
- Disaster response
- Space exploration
- Medical robotics

ARMMP is a rapidly growing field with the potential to revolutionize the way that robots interact with the world. This book provides a comprehensive overview of the latest advances in ARMMP, and is a valuable resource for researchers, students, and practitioners in the field.



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