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Robot Navigation: New Research

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Editors: Jianguo Xiao

Book Description:

The field of robot vision guidance is developing rapidly. The benefits of sophisticated vision technology include savings, improved quality, reliability, safety and productivity. Robot vision is used for part identification and navigation. Vision applications generally deal with finding a part and orienting it for robotic handling or inspection before an application is performed. Sometimes vision guided robots can replace multiple mechanical tools with a single robot station.

A combination of vision algorithms, calibration, temperature software, and cameras provide the vision ability. Calibration of robot vision system is very application dependent. They can range from a simple guidance application to a more complex application that uses data from multiple sensors.

Algorithms are consistently improving, allowing for sophisticated detection. Many robots are now available with collision detection, allowing them to work alongside other robots without the fear of a major collision. They simply stop moving momentarily if they detect another object in their motion path.

This book presents new and important research in the field.

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