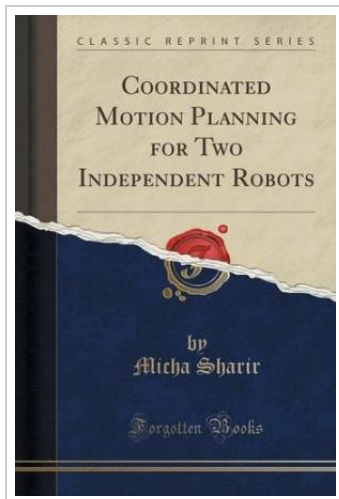




Coordinated Motion Planning for Two Independent Robots (Classic Reprint)

By Micha Sharir

Forgotten Books, United States, 2015. Paperback. Book Condition: New. 229 x 152 mm. Language: English . Brand New Book ***** Print on Demand *****.Excerpt from Coordinated Motion Planning for Two Independent Robots We present an $O(n^2)$ algorithm for planning a coordinated collision-free motion of two independent robot systems of certain kinds, each having two degrees of freedom, which move in the plane amidst polygonal obstacles having a total of n corners. We exemplify our technique in the case of two planar Stanford arms, but also discuss the case of two discs or convex translating objects. The algorithm improves previous algorithms for this kind of problems, and can be extended to a fairly simple general technique for obtaining efficient coordinated motion planning algorithms. 1. Introduction In this paper we present a new approach to the design of efficient algorithms for coordinated collision-free motion planning for two independent robot systems moving amidst a collection of obstacles which they must avoid (and also avoid collision into one another). We exemplify our techniques in the case of two planar Stanford arms, where each arm is modeled as a line segment which can slide forward and backward through some fixed point, and can also rotate...



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Reviews

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