

An Agent Based Control System for Multiple-load AGVs

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Abstract

In the manufacturing environment, there are many algorithms for assigning jobs to multiple-load automated guided vehicles (MAGVs). In this study, an agent based control system is proposed for the control problem of MAGVs. In the literature, task determination, delivery-dispatching, pickup-dispatching and load selection problems are researched and some dispatching rules are used frequently to dispatch MAGVs. This study focus on delivery task problem in which an MAGV should determine which delivery point will be visited. For this aim, an Multi-Agent based control system framework combined with dispatching rules for MAGVs is developed in this study.

Keywords

Multiple-Load AGVs, Delivery-dispatching Problem, Agent Based Systems

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Biography

Cenk Şahin is an assistant professor in Industrial Engineering Department at Cukurova University in Adana. He received the B.S. degree and M.S. degree in Industrial Engineering from Cukurova University in 2001 and 2004, respectively. He started his Ph.D. studies in Industrial Engineering Department at Cukurova University in September 2004 and finished 2010. He is currently working as a lecturer in Industrial Engineering Department at Cukurova University since 2010. His main research interests include the agent and holonic-based approaches to controlling manufacturing systems and the applications of artificial intelligence techniques in manufacturing and service systems.

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