Computer-Aided Assembly Sequence Planning Using Simulated Annealing

石豐維、陳偉星
E-mail: 9808034@mail.dyu.edu.tw

ABSTRACT
The purpose of this project is to establish a computer-aided model for assembly sequence planning using simulated annealing approach. Four evaluation criteria such as directionality, fixture complexity, direction change and tool change are developed for systematic evaluation of the assembly sequences. Then, simulated annealing algorithm have been adopted for solution procedure for assembly sequence planning. In addition, the solution quality and solving efficiency are tested for the computer-aided model being developed. Finally, real-world examples are adopted for illustrating and validating the performance of the computer-aided SA model for assembly sequence planning.

Keywords: Assembly Sequence Planning; Simulated Annealing

Table of Contents
1. Introduction
2. Literature Review
3. Assembly Plan Generation
4. Assembly Assessment Criteria
5. Simulated Annealing Application
6. Experimental Results Analysis
7. Conclusion and Discussion

REFERENCES
[1] 劉愷信(民86),應用人工智慧之產品裝配程序規劃研究,私立大葉大學工業工程研究所碩士論文。
[2] 黃開義,林旭昇(民83),人工智慧搜尋策略在裝配程序規劃之應用,大葉學報第三卷第一期。
[3] 黃開義,吳松達(民82),裝配程序規劃之局部裝配擷取,大葉學報第二卷第一期。
[4] 楊家豪(民86),以遺傳演算法應用於電腦輔助裝配程序規劃問題之研究,國立台灣大學工業工程研究所碩士論文。
[5] 林建利(民87),應用模糊邏輯與模擬退火法於自走式機器人之路徑規劃研究,國立成功大學電機工程研究所碩士論文。
[6] 徐德興(民89),利用模擬退火演算法求解不規則物件排列及切割問題,私立大葉大學工業工程研究所碩士論文。