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## CONFERENCE

### Backtracking Greedy Algorithm for Cutting Stock Pr

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<b>Authors</b>	<a href="#">Alan J. Crispin</a> , <a href="#">Kai Cheng</a>
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<b>Abstract</b>	This paper presents a greedy search placement cutting problem. In the leather manufacturing industry it is of prime importance to maintain profit while generating cut-plans that minimise material waste. The unique feature of the greedy placement algorithm incorporates backtracking which allows previous placement solutions to be found. The underlying Non-Flapping Placement Problem (NFP) which describes the boundary around a part while just touching the first but without overlapping placement constraints into account.
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## Backtracking Greedy Algorithm

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**Keywords:** Cutting stock problem, Greedy algorithm

**Abstract.** This paper presents a greedy search plan for the leather stock cutting problem. In the leather component parts (stencils) form a hide is used. Consequently, the development of new approach waste and which can handle problem constraint greedy placement algorithm method presented which allows previous placement steps to be retraced be found. The underlying encoding method is based describes the boundary around a stencil shape such just touching the first but without overlapping, taking placement constraints into account.

### Introduction

The problem of arranging shapes (component parts) as the cutting stock problem. This problem arises in cutting, sheet metal, textile and shoe making. arrangement of shapes on a rectangular stock problems, such as the leather nesting problem [1] on an irregularly shaped hide (stock) with the additional requires its own unique lay-plan. Directionality requirements such as aligning shapes to a fabric (tightness direction).

The overall goal of this research is to investigate optimal cut-plan layouts [2, 3, 4]. New methods for the automatic generation of cut-plan layouts and optimised NC part programs for cutting machines currently being investigated based on a local greedy placement solution around the previous stencil shape.

This leather problem is significantly more complex because it has to consider issues relating to the fit of its surface with strength and flexibility dependent strategy which is based on finding a placement of shapes as shapes are placed on the hide one incorporates a backtracking routine so that the plan is a situation where no solution can be found such as the leather problem.

The paper is structured so as to first discuss the leather problem, the implementation of the backtracking greedy algorithm, a discussion section. Finally conclusions are drawn.

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