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MOHAMMAD YEAKUB ALI

AKM NURUL AMIN

**DESIGN FOR MANUFACTURE**

Towards Improved Manufacturability



**IIUM Press**

# DESIGN FOR MANUFACTURE

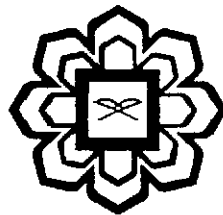
## Towards Improved Manufacturability

### EDITORS

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# **Design and Fabrication of Industrial Welding Robotic Arm**

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## **1. Introduction**

An industrial robot is officially defined by the International Organization for Standardization as an automatically controlled, reprogrammable, multipurpose manipulator programmable in three or more axes. The field of robotics may be more practically defined as the study, design and use of robot systems for manufacturing.

Welding robots on the other hand is the use of mechanized programmable tools (robots), which completely automate a welding process by both performing the weld and handling the part. Processes such as gas metal arc welding, while often automated, are not necessarily equivalent to robot welding, since a human operator sometimes prepares the materials to be welded. Welding robots is commonly used for resistance spot welding and arc welding in high production applications, such as the automotive industry.

## **2. Problem Statement**

In any industry, mainly the automotive industry, robotic welding is crucial to maintain the production of products. Hence, a study in the robotic arm is needed to design and control of an industrial welding robot.