

SCARA FOR FMS LAB EQUIPMENT

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STATEMENT BY THE AUTHOR

I hereby declare that this submission is my own work and to the best of my knowledge, it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at any educational institution, except where due acknowledgement is made in the thesis.


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ABSTRACT**SCARA FOR FMS LAB EQUIPMENT**

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This research paper presents the development of a SCARA (Selective Compliance Assembly Robot Arm) robot specifically designed for pick and place operations in Swiss German University's FMS (Flexible Manufacturing System) lab equipment. The aim is to increase productivity and efficiency, which may then be utilized in current industrial sectors via automation. The paper provides an overview of the significance of SCARA robots in manufacturing automation and discusses the requirements and constraints associated with pick and place tasks. The research methodology involves a systematic design and development process, carefully selecting hardware designs and integrating a robust control system for precise positioning and path planning. Experimental tests validate the performance of the developed SCARA robot, demonstrating its high-speed capabilities and precise positioning. The results establish the effectiveness of the proposed design, highlighting its potential for transporting the cup from distribution station to a plate in the conveyor station. This research contributes to the advancement of SCARA robot design and development, with implications for improving operational efficiency in various manufacturing industries.

Keywords : SCARA Robot, Pick and Place, FMS, Automation, Manufacturing Automation

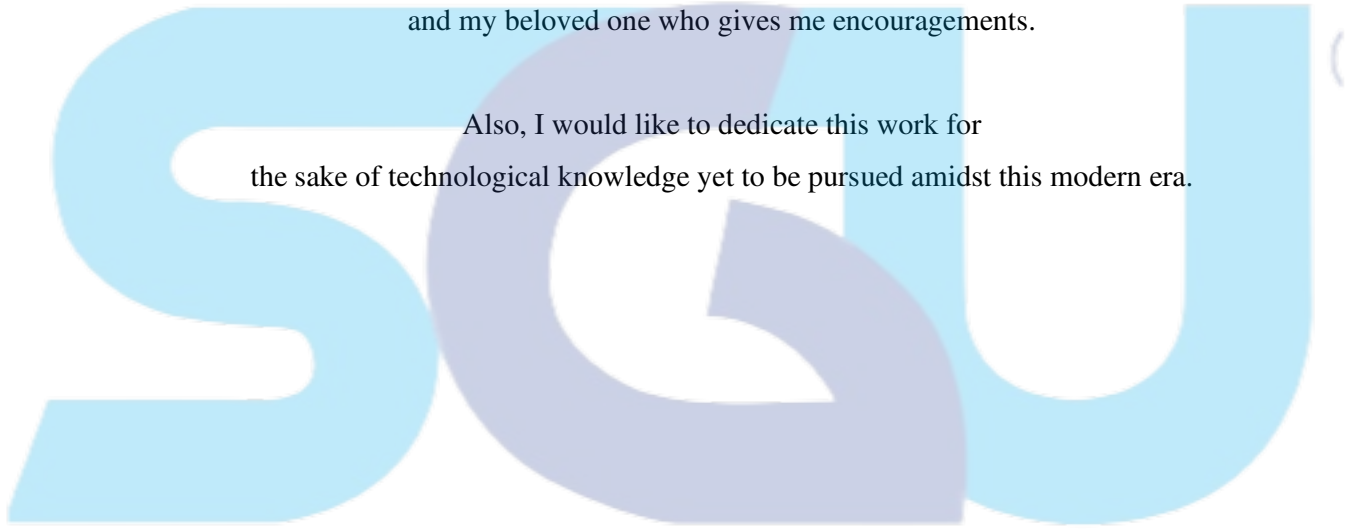
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DEDICATION

This paper is dedicated to God who always show me a way throughout my journey,
to my family who gives me support,
my friends who strive together along my side
and my beloved one who gives me encouragements.

Also, I would like to dedicate this work for
the sake of technological knowledge yet to be pursued amidst this modern era.



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