Project 3:
The Optimize Control of Robotic Manipulator in Kinematics and Dynamics Aspect

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Project Description and Objectives:
The robot industry, which was represented by robotic manipulator, has made a great progress in development, which has led to the infiltration in all walks of life, and also played an increasingly significant role in them. This period of development made the path optimization for robotic manipulator emerged as strategic and competitive directions for all kinds of research. Due to the endless innovation of algorithm or constraint condition by researchers, the manipulator improved itself more effectual. It is certain that the optimized manipulator operation not only improving the efficiency, but also saving massive costs, including time costs and energy costs. With the innovation on optimization control of robotic manipulator in Kinematics and Dynamics aspect, it will become one of the most influential changes in human life.

In this project, describe the motion functions of the robot joints by using mathematical modeling methods in the first place.

Then, establish objective functions on trajectory. Finally, seek out the optimum solution of objective function through optimized algorithms. The final research outcome of this project will achieve the robotic manipulator's optimization on Kinematics and Dynamics aspect.

Eligibility Requirements:
Interested students should have basic knowledge of robotic manipulator Kinematics and Dynamics.

Main Tasks：
Finish one research report.
Give one technical presentation.

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