

Dedication

"وما توفيقي إلا بالله عليه توكلت وإليه أنيب"

We dedicate this project to our great parents; we could never done this without your faith, support and ceaseless encouragement.

Thank you for all the unconditional love, guidance and support that you have always given us. Thank you for believing in us, thanks for everything.

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Abstract

The Agile Eye robot represents a challenging problem in design and control it to get high speed and acceleration.

The Agile Eye robot is consists of 3 motors, 3 active link, 3 forearm link, 3 passive link, end-effector and base. The motors are fixed on the base with angle 120° between each motor, the motor shaft is connected with active link, the last one is connected with forearm link, and forearm link connected with passive link, finally the passive link is connected with the end-effector.

The controller designed using MATLAB. The aim of this project is educational and it can be used in industry for special uses.

الملخص:

التمثيل الرياضي و التحكم عالي الدقة في الذراع الآلي مغلق الحركة المتوازي "Agile Eye" ثلاثي الابعاد.

اقترحنا في هذه المشروع التمثيل الرياضي الذراع الآلي مغلق الحركة عن طريق التصميم ثلاثي الابعاد باستخدام برنامج "Solidwork".

الروبوت عبارة عن نظام متعدد المداخل ومتعدد المخارج غير خطي ، لذلك فهو يحتاج الى نظام تحكم من اجل تحسين أداء هذا الروبوت . ويتناول ايضا هذا المشروع التحليل الاستاتيكي و الديناميكي . أيضا تم عمل اختبار على التصميم ثلاثي الأبعاد باستخدام برنامج "MATLAB". لضمان الدقة العالية المرجوة من هذا المشروع سيتم تصميم متحكم مناسب لتحقيق هذا الهدف.

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