College of Engineering

Thesis Prospectus

3-Dimensional Model-Based Dynamic Feedback Control for Soft Robots

by

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1 Abstract

Materialization of the benefits in dynamic motion–and in safe, compliant interactions with unstructured environments–promised by the physical characteristics of soft robots, are largely held back by the lack of robust control strategies. Since work has been done to fundamentally develop such control strategies– particularly for planar motion, a three-dimensional closed-loop dynamic controller for continuous soft robots emerge as the next frontier in soft robotics controls. This work aims to develop such a control architecture of that nature for trajectory tracking, by building on control strategies and dynamic models that have been both proven, and validated.

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Background

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Research approach

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