

סמינריון

הנדך מוזמנות להרצאה סמינריונית של הפקולטה להנדסת מכונות שתתקיים ביום ה' 17.09.2020

(כ"ח באלול, תש"פ), בשעה 13:30 באמצעות הזום :

<https://technion.zoom.us/j/92320096677>

מרצה : רון הרטסטון

מנחה : פרופ'ח מרים זקסנהויז

מנחה שותף : פרופ'ח ראובן כץ

על הנושא :

Implementation of a Natural Dynamic Controller on an Under-actuated Compass-Biped Robot

The seminar will be given in English

תקציר ההרצאה :

Natural dynamic controllers aim to perform the desired task by exploiting the natural dynamics of the system. This can be accomplished by generating torque patterns to actuate the system rather than accurately following a predefined trajectory. We have previously demonstrated natural dynamic control of compass-biped in simulations. Here we demonstrate successful implementation of this dynamic controller on an under-actuated compass-biped robot. The parameters of the controller, and in particular the magnitude and timing of torque primitives, were optimized using multi-objective optimization via genetic algorithm, accounting for speed and energy efficiency. While the current implementation is in open-loop, this strategy can be extended to include feedback to enhance walking over a wide range of terrains. This proof-of concept provides the basis for future extensions to more complex robots.

בברכה,

ד"ר איתי סאס

מרכז הסמינרים