סמינר - SEMINAR

הנך מוזמן/ת להרצאה סמינריונית של הפקולטה להנדסת מכונות, שתתקיים ביום ב׳ 16.11.2020
(כ״ט בחשון תשפ״א), בשעה 14:30 באמצעות הזום :

https://technion.zoom.us/j/93862782763

מרצה:

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The seminar will be given in English

על הנושא:

Multi-Vehicle Systems: Deep Reinforcement Learning-Based Control for Automated Driving

להלן תקציר ההרצאה:

Although self-driving car pilot programs have been rolled out in countries like the USA and China, there are still challenging problems to be solved. This presentation is concerned with complex yet practical traffic scenarios that involve multiple vehicles for automated driving. Although there are different approaches to multi-vehicle control, this lecture will concentrate on Deep Reinforcement Learning (DRL) applications. DRL has been used to train policies that beat human champions in Go games, which is considered a breakthrough of artificial intelligence. I will show that DRL offers near-optimal control solutions and can be successfully applied to highway on-ramp merging. In particular, for a 2015 Toyota Prius Plug-In Hybrid Electric Vehicle, the DRL-trained on-ramp merging policy results in zero collisions and over 31% energy saving. Additional insight for multi-vehicle systems may be gained from vehicle-to-vehicle communications and from modeling of collective behavior of bat swarms, which will be briefly described in the lecture.

מארח : פרופ׳ מיכאל שפירא

בברכה,

פרופ׳/ח אתי סאס
מרכז הסמינרים