4:00 p.m. BU 208

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A Deep Reinforcement Learning Design for Robot-Assisted Pedestrian Crowd Evacuation

Abstract: A new Artificial Intelligence (AI) trend has emerged with the breakthroughs of deep learning and deep reinforcement learning. The success stories include AI for detecting skin cancer, deep learning for complex (video) games, and so on. Neural networks and machine learning are two of the driving forces for this AI wave. Today's talk will discuss a new design for neural network training, which eventually enhances the reinforcement learning process. A new experience network is designed with a prioritized sampling method to promote the useful information for reflective learning. This design improves the data efficiency and significantly save computation resources of intelligent learning systems. Application on robot-assisted pedestrian crowd evacuation will be provided to show the performance the proposed algorithm. As this is a multi-disciplinary research project, I will also introduce the collaboration opportunities along the direction.