October 21, 2024
2:00pm-3:00pm
KAP 414

<div align="center">

Prof. Igor Cialenco

(Illinois Institute of Technology)

</div>

Risk Filtering and Risk-Averse Control of Systems with Model Uncertainty

Abstract: We consider a Markov decision process subject to model uncertainty in a Bayesian framework, where we assume that the state process is observed but its law is unknown to the observer. In addition, while the state process and the controls are observed at time t, the actual cost that may depend on the unknown parameter is not known at time t. The controller optimizes these running costs by using a family of special risk measures, that we call risk filters and that are appropriately defined to take into account the model uncertainty of the controlled system. These key features lead to non-standard and non-trivial risk-averse control problems, for which we derive the Bellman principle of optimality. We illustrate the general theory on several practically important examples.

Zoom Link: USC Math Finance Colloquium

Join Zoom Meeting
https://usc.zoom.us/j/94973619069?pwd=VnU5bVlMc1pzVTlEYUVaZUYyNSt6UT09

Meeting ID: 949 7361 9069
Passcode: 925028