SEMINAR

An Introduction to Stochastic Dynamic Programming

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Chair: Prof. Luca Bertazzi
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Wednesday, February 21st, 2024, 2:00 PM
Room A6, S. Chiara Building

The seminar focuses on sequential decision-making in the face of uncertainty. A variety of real-world challenges fall within this scope, including problems in the management of supply and distribution networks, health care delivery, energy, and financial portfolios. In such problems, the decision-maker is tasked with identifying alternatives that perform well not only now, but across some horizon. Because sequential decision problems cut across many domains, they are studied in various disciplines. The engineering community focuses on optimal control, the operations research community references Markov decision processes, and the computer science community studies reinforcement learning. In this seminar, we leverage advances in each of these communities to explore stochastic dynamic programs (SDPs). We address modeling, policy creation, and the development of dual bounds for SDPs.