Information, Control, and Learning: The Ingredients of Intelligent Behavior.

September 2016, Jerusalem

Abstract:

Technology for autonomous driving requires both "sensing" (understanding the environment) and "acting" (moving the car appropriately). The talk will focus on the "acting" part, which we call a "driving policy". Manually defining a driving policy is tricky mainly because it requires to negotiate the right of way with other drivers by balancing between unexpected behavior of other drivers while not being too defensive. Reinforcement learning seems like the appropriate tool for learning a driving policy. We discuss specific challenges to this domain, including learning with safety guarantees and reinforcement learning beyond MDPs.
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