A Big but Bridgeable Gap: From Deliberative Planning to Real-Time Execution and Learning

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Abstract

Problem solving is a complicated intelligent process that includes planning, execution, and necessarily learning. The Prodigy problem solving architecture contributed multiple successful approaches to the integration of planning and learning. Execution offers a variety of additional challenges to problem solving, including real-time decision making, uncertainty in state and action modeling, and possibly multiple executors. I have always researched on problem solving, both within the Prodigy architecture and also on complete teams of robot soccer executors. In this talk, I will discuss the existing gaps between classical planning, execution, and learning. I will also present our efforts and contributions to bridge that gap.