Hierarchical Skill Learning for High Level Planning

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Overview and Motivation

• Preliminary work to mix reinforcement learning and heuristic search planning to benefit each other
• Define an agent architecture that from low-level primitive actions, a model of the world, and experience, learns generalized hierarchical skills
• Skills can be used to help solve new problems
• No single fixed structure, structures emerge from the problem
• Agents can be more successful at new problems if they plan in initial stages
  – Agents can also learn with less trials
Architecture