Explore System Identification via Higher-Level Application of Adaptive-Critic Approximate Dynamic Programming

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INTRODUCTION

Adaptive-Grid-type Approximate Dynamic Programming (ADP) can be applied to a novel high-level way to create autonomous agents capable of identifying and controlling a plant set. ADP is always an optimal controller for a given context. The term context is defined as complete three dimensional context, the plant set: states, actions, and outputs. The context discerning mechanism is a higher-level application of ADP. This mechanism is designed to use and train an Adaptive-Critic (AC) to create an optimal controller for a variety of contexts. The model is an optimal controller for a given context. This model is trained for a particular context, and stored and trained on a variety of contexts to follow. The agent can be designed to discern context and select an optimal controller for the current context. The agent can be designed to discern context and select near-optimal controllers for new contexts that are encountered. For a variety of distinct contexts, the agent can be trained to develop optimal controllers for each context. This model is trained to generate the same output as the plant set. This model is trained to generate the same output as the Plant, thus identifying the system. This family of mappings is characterized by a set of weight values different from those instantiated for the mappings for the plant set. The test set is run on an Adaptive-Critic Model so their structures are not identical. We have identified the mechanisms by which humans learn, merely that these experiments confirm our intuition about human learning suggests. That these experiments confirm our intuition about human learning suggests. The Handbook of Learning and Intelligent Systems. The Handbook of Learning and Intelligent Systems. The Handbook of Learning and Intelligent Systems. The Handbook of Learning and Intelligent Systems. The Handbook of Learning and Intelligent Systems. The Handbook of Learning and Intelligent Systems. The Handbook of Learning and Intelligent Systems. The Handbook of Learning and Intelligent Systems. The Handbook of Learning and Intelligent Systems.