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Adaptive Dynamic Programming and Its Control Applications in Intelligent Systems

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Message from the Guest Editors

Adaptive dynamic programming (ADP) is a new interdisciplinary subject in artificial intelligence and control. ADP-based methods have effectively solved the control problems of large-scale complex nonlinear systems in the fields of transportation, logistics, power and process engineering, which has attracted the attention of many researchers. Therefore, this Special Issue intends to present new ideas and experimental results in the field of ADP and its control applications in intelligent systems.

Potential topics include, but are not limited to, the following:

- Improved design and analysis of ADP framework and theory;
- Combination of ADP and other control algorithms, such as fault-tolerant control, sliding mode control, adaptive control, fuzzy control, and robust control;
- Realization of ADP control techniques based on neural networks, fuzzy logic, fuzzy neural networks, etc.;
- ADP-based control techniques applied for unmanned systems, multi-agent systems, and complex nonlinear systems;
- Distributed cooperative optimization based on ADP;
- Data-based intelligent control based on ADP (reinforcement learning);
- Multiobjective optimal control based on ADP.



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Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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