Open Invited Track "Adaptive Neural Networks and Their Applications"

Recent years have seen a rapid development of neural network control techniques and their successful applications. Numerous simulation studies and actual industrial implementations show that neural network is a good candidate for function approximation and control system design in solving the control problems of complex nonlinear systems in the presence of different kinds of uncertainties. We would like to invite researchers from academia and industry to the open invited track "Adaptive Neural Networks and Their Applications". Submission number: 100 and Code: 5snux.

Driven by the desire for high degree of automation, fast speed operation and good control performance from industry, extensive research work has been carried out on neural networks for control system design over the past decades. Neural network received much attention again with the booming of artificial intelligence. In this case, new challenges present themselves in the analysis and control of many engineering feedback systems.

In spite of these remarkable advances in the neural control field, due to the complexity of nonlinear systems, the present research is still focused on the development of control approaches/methods and control applications within the fields of neural control. The proposed track will create a discussion forum for the presentation of challenging issues and new results on neural networks and artificial intelligence. New analysis and design techniques, as well as new interesting application examples are invited for submission.

We expect to receive papers involving neural network dealing with theory and applications. Theory oriented papers may be in the following topics of interest (not an exhaustive list): stability and stabilization, robustness issues, performance limitations, filtering and estimation, fault tolerant control, deep learning, reinforce learning. Application oriented papers are invited from the following areas: autonomous underwater vehicles, aerospace, biological systems, chemical processes, energy and nuclear systems, mechanical systems, mechatronics, network controlled systems, power systems, robotics, transportation systems, and other emerging applications.

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