Special Issue

Adaptive Control and Cognitive Architectures: Bridging Cybernetics, Neuroscience, and AI

Message from the Guest Editor

This Special Issue invites contributions exploring how principles of adaptive control, feedback, and information processing can be combined to advance the design of intelligent systems. We welcome work that bridges cybernetics, neuroscience, and artificial intelligence: from biologically inspired cognitive architectures and perception–action loops to novel industrial automation strategies informed by human or animal control models. Topics of interest include, but are not limited to adaptive decision-making under uncertainty, sensorimotor integration in AI, neural and cognitive models for real-world control tasks, and hybrid approaches combining machine learning with feedback-based regulation. The aim is to provide a forum where researchers from diverse disciplines can share theoretical advances, computational models, and applied systems that push the boundaries of adaptive intelligence in both natural and artificial domains.

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Deadline for manuscript submissions

18 September 2026

AI

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Impact Factor 5.0
CiteScore 6.9

mdpi.com/si/251878

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