

Research on Hopfield neural networks with feedback mechanism, applied to solving grid equation systems

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Abstract: This topic focuses on researching and developing a Hopfield network with a feedback mechanism for application in solving grid equation systems. Given the practical necessity in information and image processing, the goal is to build a system capable of quickly and accurately finding solutions for nonlinear equation systems. The approach includes both theoretical research and experimental implementation. The expected results of this topic will confirm the effectiveness in solving the problem and make a significant contribution to the research field of applied Hopfield networks.

Keywords: Hopfield network, feedback mechanism, grid equation system, image processing, solving nonlinear equation systems