A New Local Rule for Convergence of ICLA to a Compatible Point

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Many problems in the modern world have a decentralized and distributed nature. Irregu
learning automata (ICLA) is a powerful mathematical model for decentralized problems
applications. Convergence of ICLA to a compatible point is very important because this
can provide efficient solutions for the problems. The local rule of ICLA can play a key ro
convergence. A local rule that simply rewards or punishes learning automata just based
response of environment and actions of neighbors does not guarantee convergence of
compatible point. In this paper, we present a new local rule that guarantees convergenc
compatible point. Formal proofs for the convergence are provided and results of the co
experiments support our theoretical findings.

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