A NEW APPROACH FOR GENERATING A COMPLETE DETECTOR REPERTOIRE IN ARTIFICIAL IMMUNE SYSTEMS

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TÓM TẮT:

Generation of the Detector set is a key problem in Artificial Immune Systems (AIS) due to cost of time and space. A weakness in many detector generating algorithms was random generation of detectors so that many candidate detectors may be discarded. We present a novel data structure for extracting data from protected self set. That helps to produce all possible detectors, or a complete detector repertoire, with lower time and space complexities compare to recent novel approaches. Theoretical analysis and experimental results show that our approach is effective and feasible. These new valuable characteristics can make complex AIS have the highest ability to detect data changes and to reduce false detection.