ANOTHER LOOK AT R-CHUNK DETECTOR-BASED NEGATIVE SELECTION ALGORITHM

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TÓM TẮT:

Artificial immune system (AIS) is a diverse research area that combines the disciplines of immunology and computation. Negative selection algorithm (NSA) is one of the computational models of self/nonself discrimination can be designed for anomaly detection in AIS. It contains two stages: generate a set D of detectors that do not match any element of a given self-set S. Then, use these detectors to detect whether a given cell is self or nonself. One fast r-chunk detector-based NSA (rNSA) originally introduced by M. Elberfeld et al. in 2009 [6], the complete generating detector can detect all nonself space. Here, we develop negative-dual algorithm, called r-chunk detector-based positive selection algorithm (rPSA), to detect the complement of the nonself space with the same memory complexity but reduces runtime complexities.