NEGATIVE SELECTION OF ARTIFICIAL IMMUNE SYSTEM IN WEB CACHING

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ABSTRACT

With the recent explosion in usage of the World Wide Web, the problem of caching Web objects has gained considerable importance. Previous work and ongoing developments have focused on cache replacement strategies. This project however, develops a prototype of web cache inspired by Artificial Immune System (AIS). Negative Selection (NS) algorithm of AIS is used in developing the prototype. The aim of this project is to determine the effectiveness of NS in web caching. The ‘self’ in NS is represented by previously requested web objects while ‘non-self’ is represented by newly arrived objects. Besides that, an operational framework is planned and used throughout the research. Due to the time constraint, the prototype runs offline and limited to server side caching. Whereas the testing is done by comparing the cache hit rate of Negative Selection algorithm, Squid data and maximum cache data. The testing shows that NS is producing promising results in web caching. However, the process of formatting web objects and generating detectors needs to be improved in future development.
REFERENCES


