Abstract

Web caching is a technique which is used to reduce user perceived latency when user is accessing the Web pages. Web pre-fetching is a scheme where Web pages are pre-fetched into the intermediate server (proxy) cache before user accessing it. These two techniques can complement each other since the Web caching exploits the temporal locality, whereas Web pre-fetching utilizes the spatial locality of Web objects. In this paper, we developed modified ART1 neural network to pre-fetch Web pages into the proxy cache. We have also empirically shown the performance of proposed work with the existing ART1 based pre-fetching. By using this approach the hit rate of the cache increases, which in turn reduces the user perceived latencies.

References

Optimizing the Web Cache Performance by Clustering based Pre-Fetching Technique using Modified ART1

- Akshay Shenoy., "Improving the Performance of a Proxy Server using Web log mining." San Jose State University, 4-1-2011.
- Abdullah Balamash and Marwan Krunz., "an overview of Web caching replacement algorithms." University of Arizona.
- Anupam Bhattacharjee., "A New Web Cache Replacement Algorithm1." Bangladesh University of Engineering and Technology, Dhaka-1000, Bangladesh.
- Lei Shi., "Optimal Model of Web Caching and Pre-fetching." ISCSCT &apos;09.
- Q. Yang, and Z. Zhang, "Model based Predictive Prefetching."


**Index Terms**

Computer Science  |  Information Sciences

**Keywords**

Web Pre-fetching  |  Web Caching  |  Latencies  |  Web Log Mining  |  Work Load Matrix