

These results are helpful to decide how well the trained model will be useful to perform prediction using the sample data set. The prediction accuracy is calculated using “Eq. (1)” as follows

$$(629+1253+618)/nrow(test_data) \quad (2)$$

From “Eq. (2)” it is observed that the accuracy of the model is 99.3% which is very good.

7. Conclusion

Resource provisioning is a technique for allocating and scheduling resources based on the demand to ensure guaranteed performance for applications. The techniques used are selected in order to improve response time, performance. The Dynamic Min-Max algorithm provides a technique to handle requests dynamically as and when it comes as against the Min-Max algorithm which does batch processing. This algorithm can handle dynamic patterns in data arrivals and allocate resources accordingly. The support vector concept used here also provides a prediction model which can be used in future to make resource allocations. The Dynamic Min-Max also eliminates the overhead of sorting the tasks as against Min-Max algorithm. The prediction model used for future resource allocation has an accuracy of 99.3% which is ideal in any cloud environment.

References

- [1] Sanjay Chakraborty, Nilotpal Choudhury, "A Study of a New Dynamic Load Balancing Approach in Cloud Environment", World Journal of Computer Application and Technology 4(3): 31-37, 2016.
- [2] Priya Gupta, Makrand Samvatsar, Upendra Singh. "Cloud computing through dynamic resource allocation scheme", 2017 International conference of Electronics, Communication and Aerospace Technology (ICECA), 2017
- [3] N. Susila, Dr. S.Chandramathi , "Energy Efficient Extended FCFS Load Balancing In Data Centers of Cloud" ,International Journal of Applied Engineering Research ISSN 0973-4562 Volume 11, Number 1 (2016) pp 599-605 © Research India Publications https://www.ripublication.com/ijaer16/ijaerv11n1_88.pdf.
- [4] Abdulhussein Abdulmohson, Sudha Pelluri and Ramachandram Siranda ,“Energy Efficient Load Balancing of Virtual Machines in Cloud Environments”, International Journal of Cloud-Computing and Super-Computing Vol.2, No.1 (2015), pp.21-34 <http://dx.doi.org/10.21742/ijcs.2015.2.1.03>
- [5] Srinivas Sethi, Anupama Sahu ,Suvendu Kumar Jena , "Efficient load Balancing in Cloud Computing using Fuzzy Logic",IOSR Journal of Engineering (IOSRJEN) . ISSN: 2250-3021 Volume 2, Issue 7(July 2012), PP 65-71,www.iosrjen.org
- [6] Zhang Qian, Ge Yufei, Liang Hong, Shi Jin, "Load Balancing Task Scheduling Algorithm based on Feedback Mechanism for Cloud Computing" ,International Journal of and Distributed Computing Vol.9, No.4(2016),pp.4152, a. <http://dx.doi.org/10.14257/ijgcd.2016.9.4.04>
- [7] O. M. Elzeki, M. Z. Reshad, M. A. Elsoud , "Improved Max-Min Algorithm in Cloud Computing" ,International Journal of Computer Applications (0975 – 8887) Volume50 – No.12, July 2012 research.ijcaonline.org/volume50/number12/pxc3881009.pdf
- [8] Sagar D. Girase, Mayank Sohani ,Suraj Patil, "Dynamic Resource Provisioning in Cloud Computing Environment using Priority based Virtual Machine's" 2014 IEEE International Conference on Advanced Communications (ICACCCT)
- [9] Rodrigo N. Calheiros, Rajiv Ranjan, Anton Beloglazov, César A. F. De Rose, and Rajkumar Buyya, “CloudSim: A Toolkit for Modeling and Simulation of Cloud Computing Environments and Evaluation of Resource Provisioning Algorithms”, Software: Practice and Experience, Volume 41, Issue 1, pages 23–50, January 2011.
- [10] Raj Kumar Buyya, Chee Shin Yeo, Srikumar Venugopal, James Broberg, and Ivona Brandic, “Cloud Computing and Emerging IT Platforms: Vision, Hype, and Reality for Delivering Computing as the 5th Utility”, Future Generation Computer Systems, Volume 25, Number 6, Pages: 599-616, ISSN: 0167-739X, Elsevier Science, Amsterdam.
- [11] Huankai Chen, Professor Frank Wang, Dr Na Helian, Gbola Akanmu , Parallel Computing Technologies, "User-Priority Guided Min-Min Scheduling Algorithm For Load Balancing in Cloud Computing" , Parallel Computing Technologies (PARCOMPTECH), 2013 National Conference, <http://ieeexplore.ieee.org/document/6621389/>
- [12] Sridharshini V, V.M.Sivagami ,”Energy-Aware Scheduling Using Workload Consolidation Techniques in Cloud Environment”, International Journal of Computer Science and Engineering Communications Vol.3, Issue 3, 2015, Page.1141-1148
- [13] Ilija Pietri, Maciej Malawski ,Gideon Juve , Ewa Deelman , Jarek Nabrzyski, Rizos Sakellariou , “Energy-Constrained Provisioning for Scientific Workflow Ensembles”, 2013 IEEE Third International Conference on Cloud and Green Computing
- [14] Dzmityr Kliazovich, Sisay T. Arzo, Fabrizio Granelli, Pascal Bouvry and Samee Ullah Khan, “e-STAB: Energy-Efficient Scheduling for Cloud Computing Applications with Traffic Load Balancing” 2013 IEEE International Conference on Green Computing and Communications and IEEE Internet of Things and IEEE
- [15] Kunduru Sravani , P.Rajendra Prasad, T.Madhu”A Unique Method for Energy Aware Load Balancing and Application Scaling in the Cloud Ecosystem”, international journal of engineering technology and management research, Volume no 3 september(2016)
- [16] Pooja Chauhan, Manjeet Gupta ,” Energy Aware Cloud Computing Using Dynamic Voltage Frequency Scaling”, International Journal of Computer Science And Technology Vol. 5, Issue 4, Oct - Dec 2014.
- [17] R. Lee and B. Jeng “Load Balancing Tactics In Cloud” International Conference On Cyber Enabled Distributed Computing And Knowledge Discovery, (2011).
- [18] N. J. Kansal, “Cloud Load Balancing Techniques: A Step Towards Green Computing”, IJCSI International Journal Of Computer Science Issues, ISSN (Online): 1694-0814, vol. 9, Issue 1, no. 1, (2012) January, pp. 238-246.
- [19] P. Barham, B. Dragovic, K. Fraser, S. Hand, T. Harris, A. Ho, R. Neugebauer, I. Pratt and A. Warfield, “Xen and the art of virtualization”, in: Proceedings of the 19th ACM Symposium on Operating Systems Principles, SOSP 2003, Bolton Landing, NY, USA, (2003), pp. 177.
- [20] Mr. Jayant Adhikari, Prof. Sulabha Patil, “Load Balancing The Essential Factor In Cloud Computing”, International Journal of Engineering Research & Technology (IJERT), ISSN: 2278-0181, Vol. 1 Issue 10, December- 2012.
- [21] Mr. Jayant Adhikari, Prof. Sulabha Patil, “Double Threshold Energy Aware Load Balancing In Cloud Computing”, 4th IEEE International Conference on Computing, Communication and Networking Technology, 4-6 July 2013.
- [22] oria Bidi, Zakaria Elberrichi. "Using Penguins Search Optimization Algorithm for Best Features Selection for Biomedical Data Classification", International Journal of Organizational and Collective Intelligence, 2017