Recognition of internet traffic using ML and a statistical method

Kishan aggarwal

[1]Research Intern
[1]The Research World, New Delhi, India
[1] kishan.aggarwal001@ gmail.com*
* corresponding author

ARTICLE INFO

Article History:
Received March 1, 2020
Revised June 31, 2020
Accepted July12, 2020

Keywords:
TCP,UDP, Port,AI, ML Big Data, IoT

Correspondence:
E-mail: kishan.aggarwal001@ gmail.com

ABSTRACT

Researchers have been exploring for ways for identifying Internet activity that are not dependent on 'well-known' TCP or UDP port numbers or packet payload interpretation. Other methods use statistical patterns in the traffic's externally visible characteristics to categorise it (such as typical packet lengths and inter-arrival times). Classifying Internet traffic flows into clusters with similar statistical features is the fundamental objective. To cope with traffic patterns, huge datasets, and multidimensional domains of flow and packet characteristics, machine learning (ML) approaches were introduced in this sector.

Contact Editor for Full paper Contact @ijsdcs.com

References

[1] Thuy T. T. Nguyen and Grenville Armitage, "A Survey of Techniques for Internet Traffic classification using Machine Learning", IEEE communications surveys & tutorials, vol. 10, no. 4, fourth quarter 2008.

[2] Arthur Callado, Carlos Kamienski Member, IEEE, Géza Szabó, Balázs Péter Gero, Judith Kelner, Stenio Fernandes Member, IEEE, and Djamel Sadok, Senior Member, IEEE. "A Survey on Internet Traffic Identification", IEEE communications surveys & tutorials,vol. 11, no. 3, third quarter 2009.

[3] A. W. Moore and D. Zuev, Discriminators for use in flow-based classification (2005), Intel Research Tech. Rep.

[4] A. Moore and D. Zuev, "Internet traffic classification using Bayesian analysis techniques," in ACM International Conference on Measurement and Modeling of Computer Systems (SIGMETRICS) 2005, Banff, Alberta, Canada, June 2005.

[5] D. Zuev and A. W. Moore, "Traffic classification using a statistical approach," in Proc. 6th Passive Active Meas. Workshop (PAM), Mar. 2005, vol. 3431, pp. 321-324.

[6] P. Lutz, "Early Stopping-But When?" in Neural Networ ks: Tricks of the Trade, London, UK:Springer-Verlag, pp. 1998.

[7] Libor Spacek, Electron resource, June 2016, [online] Available: http://www.essex.ac.uk/mv/allfaces/index.html.

[8] A.B. Altayeva, B.S. Omarov, A.Z. Aitmagambetov, B.B. Kendzhaeva and M.A. Burkitbayeva, "Modeling and exploring base station characteristics of LTE mobile networks", Life Science Journal, vol. 11, no. 6, pp. 227-233, 2014.Show in Context View Article Full Text: PDF (286KB) Google Scholar

[9] T. Stonier, "The evolution of machine intelligence", In Beyond Information, pp. 107-133, 1992.

[10] Converse PE (1968) Time budgets. In: Sills D (ed.) International Encyclopedia of the Social Sciences. New York: Macmillan, pp. 42–47.

[11] Dayan D and Katz E (1992) Media Events: The Live Broadcasting of History. Cambridge, MA: Harvard University Press.

[12] De Grazia S (1962) Of Time, Work, and Leisure. New York: Twentieth Century Fund.