

INTERNET MIDDLE-BOX PROTOCOL: RELIABLE WIRELESS MESH NETWORKS USING SELF-MOTIVATED NEURAL NETWORK

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Abstract

Congestion in the internet is a significant problem due to the growth of networks and increased link speeds. Now it is common to see internet gateway drops 10% of the incoming packets because of local buffer overflows. An optimal solution for this problem is Predicting congestion free path(s) by learning the dynamic characteristics of networks and its topology. The factors that influence the implementation of this approach have the characteristics viz., dynamic, non-linear, incertitude, etc., which force traditional data mining approach, like neural prediction have to process a large amount of convoluted data. In this paper, we proposed prediction model rather than mathematical model for finding congestion free path(s) to implement in the internet middle boxes to avoid congestion. In the prediction model, we introduced a self-motivated learning in the training phase of an improved functional link feed-forward neural network for predicting reliable path that offer congestion free path(s).

Keywords : Data mining, Artificial Neural Networks, Congestion Control, Self-Motivated Learning