

A Comparative Analysis of Hyper-Parameters Using Neural Networks for E-Mail Spam Detection

Authors : Syed Mahbubuz Zaman, A. B. M. Abrar Haque, Mehedi Hassan Nayeem, Misbah Uddin Sagor

Abstract : Everyday e-mails are being used by millions of people as an effective form of communication over the Internet. Although e-mails allow high-speed communication, there is a constant threat known as spam. Spam e-mail is often called junk e-mails which are unsolicited and sent in bulk. These unsolicited emails cause security concerns among internet users because they are being exposed to inappropriate content. There is no guaranteed way to stop spammers who use static filters as they are bypassed very easily. In this paper, a smart system is proposed that will be using neural networks to approach spam in a different way, and meanwhile, this will also detect the most relevant features that will help to design the spam filter. Also, a comparison of different parameters for different neural network models has been shown to determine which model works best within suitable parameters.

Keywords : long short-term memory, bidirectional long short-term memory, gated recurrent unit, natural language processing, natural language processing

Conference Title : ICNNS 2021 : International Conference on Neural Networks and Statistics

Conference Location : Auckland, New Zealand

Conference Dates : December 01-02, 2021