Overview of Echo State Networks using Different Reservoirs and Activation Functions

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IoT devices are growing rapidly in number and networks become more complex than ever. Therefore, network traffic prediction is a topic that needs special attention, allowing network administrators to be able to continuously adjust network parameters. This paper is focused on Echo State Networks (ESN), a quite new type of Recurrent Networks which can be used for times series prediction. Different configurations were tested, and their performance were compared to those of classical algorithms such as Seasonal Autoregressive Moving Average (SARIMA), Convolutional Neural Networks (CNN) and Long-Short Term Memory (LSTM).

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