

Abstract: Recurrent neural networks (RNN) enable to model dynamical systems with variable input length. Their disadvantage is in inherently difficult training which means adjusting weights of connections between neurons connected in the network. Echo state networks (ESN) are a special type of RNN which are by contrast trainable rather simply. They include a reservoir of neurons whose state reflect the history of all signals in the network and that is why this type of network is suitable for simulation and prediction of time series. To maximize the computational power of ESN, very precise adjusting and experimenting are required. Because of that, we have created a tool for building and testing such networks. We have implemented a time series forecasting task for the purpose of examination of our tool. We have focused on stock price prediction, which represents an uncertain and complicated area for achieving precise results in. We have compared our tool to other tools and it was comparably successful.