

Review of: "Multivariate Time-Series Data Generation in Generative Adversarial Networks"

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Potential competing interests: No potential competing interests to declare.

GANs applied to multivariate time series data is a very actual topic.

The description of the proposed method should be more clear. The generation of data from noise, i.e., random latent space is a standard procedure in GANS in general. Some work should be applied in the generator inputs to make this work more original. In this work, the conclusions are more oriented to the discriminator output. It is shown that the extrated LSTM NN from the GAN outperform other non DL models. It Would be interesting to see if a direct trained LSTM, WaveNet, or TCN based NN is outperformed by this extracted discriminator, i.e., If there are benefits in including fake data from the generator into the discriminator in the training process, for prediction tasks. Also, if the code was available (or at lest some keras original plot of the model) I would give 3 starts. In Section IV it says "The GAN model has been trained using the python Library Keras, since we haven't found any single utility library to analyze time-series data using a deep-learning model". It gives the sense that you did not look deep enough. There are equal, if not more, implementations of GANs, LSTMs, WaveNet, TCN, etc in Theano and direct TensorFlow.