Time Series on Wafer Processing

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1 Updates: Day June 18,2018

I have implemented the **LSTM** technique mentioned in the previous update. The number of time-steps after which an output is available is 2970 which is very high for LSTM unfolding. Hence I tried with 200 time-steps for which I am getting an accuracy of about 0.25 on the training set. I also tried with 400 time steps and the accuracy improved drastically to 0.75. Since the entire data is not taken into consideration the accuracy on the training data itself is less. Next I will try the method **LSTM+embedding** which should improve the accuracy since the enitre data will be taken into consideration.

P.S. The above results are obtained without hyperarameter tuning.

2 Updates: Day June 17,2018

Yesterday I met with Tony and discussed some of the techniques that I could start with. Currently I am working on the dataset [1] that was provided by Samsung.

Techniques that were discussed:

1. Considering a fixed number of time-steps and predicting the output.
2. LSTM
3. Embeddings + LSTM
4. CNN AutoEncoder

I am working on the implementation and I will update you once I get the results.

3 Description of Datasets

1. Gas Sensor Array Drift Dataset at Different Concentrations Data Set

4 References

1. https://archive.ics.uci.edu/ml/datasets/Gas+sensor+array+exposed+to+turbulent+gas+mixtures