

ModelCard for _RecurrentGCN _____

Introduction

This model card template is taken directly from Mitchell, M., Wu, S., Zaldivar, A., Barnes, P., Vasserman, L., Hutchinson, B., ... & Gebru, T. (2019, January). Model cards for model reporting. In *Proceedings of the Conference on Fairness, Accountability, and Transparency*. (pp. 220-229).

Model Details

- **Person or organization developing model:** Alex Yu
- **Model date:** 12/8/22
- **Model version:** 1.0
- **Model type:** Recurrent Graph Convolutional neural network
- **Paper or other resource for more information:**
<https://doi.org/10.1145/3459637.3482014>
- **Citation details:** N/A
- **License:** N/A
- **Feedback on the model:** N/A

Intended Use

- **Primary intended uses:** Implementation of a recurrent graph convolution neural network model of Pytorch Geometric Temporal library.
- **Primary intended users:** Instructor/students of CS498 seminar.
- **Out-of-scope uses:** Can be used for deep learning on neural spatiotemporal signal processing.

Factors

- **Relevant factors:** Since the model is built for spatiotemporal signal, any factors regarding time and distance between the windmills would be relevant factors.
- **Evaluation factors:** 8 features regarding the hourly output of windmills from a European country.

Metrics

- **Model performance measures:** Mean Squared Error (MSE) for regression tasks.
- **Decision thresholds:** N/A
- **Approaches to uncertainty and variability:** N/A

Evaluation Data

- **Datasets:** WindmillSmallDataset (from Pytorch Geometric Temporal library) test split
- **Motivation:** For testing the models in the library.
- **Preprocessing:** Unknown.

Training Data

- **Datasets:** WindmillSmallDataset train split
- **Motivation:** same as above.
- **Preprocessing:** same as above.

Quantitative Analyses

- **Unitary results:** MSE of 0.983 after 25 epochs with a learning rate of 0.01 using Adam optimizer.
- **Intersectional results:** N/A

Ethical Considerations

None.

Caveats and Recommendations

Model can be found [here](#).