**[1] Advantage:** obtain adaptive edge information through end-to-end training without any prior information

Literature modeling method:

1. Use CNN and GRU to capture the spatial-temporal correlations

* the CNN model is not suitable to model the **non-Euclidean structure data** and thus the spatial relationships between air sensors cannot be effectively modeled.
* Graph-based deep learning can process non-euclidean structure data by modeling it to graph
  + Why?

1. Graph convolutional networks

Proposed method:

* Dynamic graph neural network with adaptive edge attributes
* Self-use dynamic graph learning
  + Address the prior information
  + Problem: dynamic adjacency matrix cause difficulty in training
    - Solution: divide adjacency matrix into topology matrix and adaptive edge attribute weights matrix
* Knowledge-driven combined with adaptive edge connection
  + Improve the physical consistency

[2]

* Fixed number of nodes: not fit with evolving dynamic graph problems

[1] Dynamic Graph Neural Network with Adaptive Edge Attributes for Air Quality Prediction

[2] EpiGNN: Exploring Spatial Transmission with Graph Neural Network for Regional Epidemic Forecasting