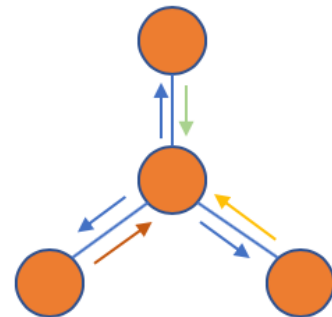




## Explainable Graph Neural Network

Lately, applying deep learning to graph-based problems has gained a lot of interest. Graph neural networks, in particular, achieved great success in knowledge graphs, reinforcement learning, chemistry, or physics simulations. However, like most deep learning models, they are black boxes. A considerable effort has been spent on investigating explanation methods for both, traditional neural networks and graph neural networks. However, the existing explanation methods are not perfect and it would be preferable to have a model that is inherently explainable.



In this thesis we will develop a graph neural network for which the decision process can be directly observed. To achieve this we will tap existing theoretical distributed computing models that allow for development of more explainable algorithms and result in a known expressivity loss.

**Requirements:** Strong motivation, knowledge in deep learning, or a solid background in machine learning. Experience with Python and TensorFlow or PyTorch is an advantage as well as knowledge in graph theory, distributed computing and graph neural networks.

We will have weekly meetings to discuss progress, issues and possible future ideas.

**Interested? Please contact us for more details!**

### Contact

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