Short description of papers

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The 3 papers I would like to review all share a common denominator: graphs related to few-shot learning and how one can model a few-shot learning scenario as a graph problem.

The papers are the following:

- Few-Shot Learning with Graph Neural Networks [1] - This paper is the first, to my knowledge, that shows how Graph Neural Networks can be used in a few-shot learning setting. They classify images in a few-shot learning setting using Graph Neural Networks.
- Few-Shot Knowledge Graph Completion [2]. This paper shows a new framework in which a new model, a Few-Shot Relation Learning model is proposed that shows how relations in a knowledge graph can be learnt from only a few examples.
- Few-Shot Audio Classification with Attentional Graph Neural Networks [3]. This paper covers a new application of few-shot learning using Attention Graph Neural Networks, namely audio classification.

Although the first and third are more related to each other, the middle one I chose because it has a clear use case in NLP, my main domain.

References

[1] Victor Garcia Satorras and Joan Bruna Estrach. Few-shot learning with graph neural networks. In *International Conference on Learning Representations*, 2018.

[2] Chuxu Zhang, Huaxiu Yao, Chao Huang, Meng Jiang, Zhenhui Li, and Nitesh V Chawla. Few-shot knowledge graph completion. In *Proceedings of the AAAI Conference on Artificial Intelligence*, volume 34, pages 3041–3048, 2020.

[3] Shilei Zhang, Yong Qin, Kewei Sun, and Yonghua Lin. Few-shot audio classification with attentional graph neural networks. In *INTERSPEECH*, pages 3649–3653, 2019.