Topological and Geometric Deep Learning

Research Project

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- [1] Vijay Prakash Dwivedi et al. "Benchmarking Graph Neural Networks". In: *CoRR* abs/2003.00982 (2020). arXiv: 2003.00982. url: https://arxiv.org/abs/2003.00982.
- [2] Thomas N. Kipf and Max Welling. "Semi-Supervised Classification with Graph Convolutional Networks". In: arXiv:1609.02907 [cs, stat] (Feb. 2017). arXiv: 1609.02907. URL: http://arxiv.org/abs/1609.02907.
- [3] Yao Ma and Jiliang Tang. *Deep Learning on Graphs*. Cambridge University Press, 2021. DOI: 10.1017/9781108924184.
- [4] Petar Veličković et al. "Graph Attention Networks". In: arXiv:1710.10903 [cs, stat] (Feb. 2018). arXiv: 1710.10903. URL: http://arxiv.org/abs/1710.10903.
- [5] Felix Wu et al. "Simplifying Graph Convolutional Networks". In: arXiv:1902.07153 [cs, stat] (June 2019). arXiv: 1902.07153. URL: http://arxiv.org/abs/1902.07153.

References II

- [6] Zonghan Wu et al. "A Comprehensive Survey on Graph Neural Networks". In: *IEEE transactions on neural networks and learning systems* 32.1 (Jan. 2021), pp. 4–24. ISSN: 2162-2388. DOI: 10.1109/TNNLS.2020.2978386.
- [7] Keyulu Xu et al. "How Powerful are Graph Neural Networks?" In: CoRR abs/1810.00826 (2018). arXiv: 1810.00826. URL: http://arxiv.org/abs/1810.00826.