



An adversarial network for training a generator of nodes of self avoiding walks attached to a surface

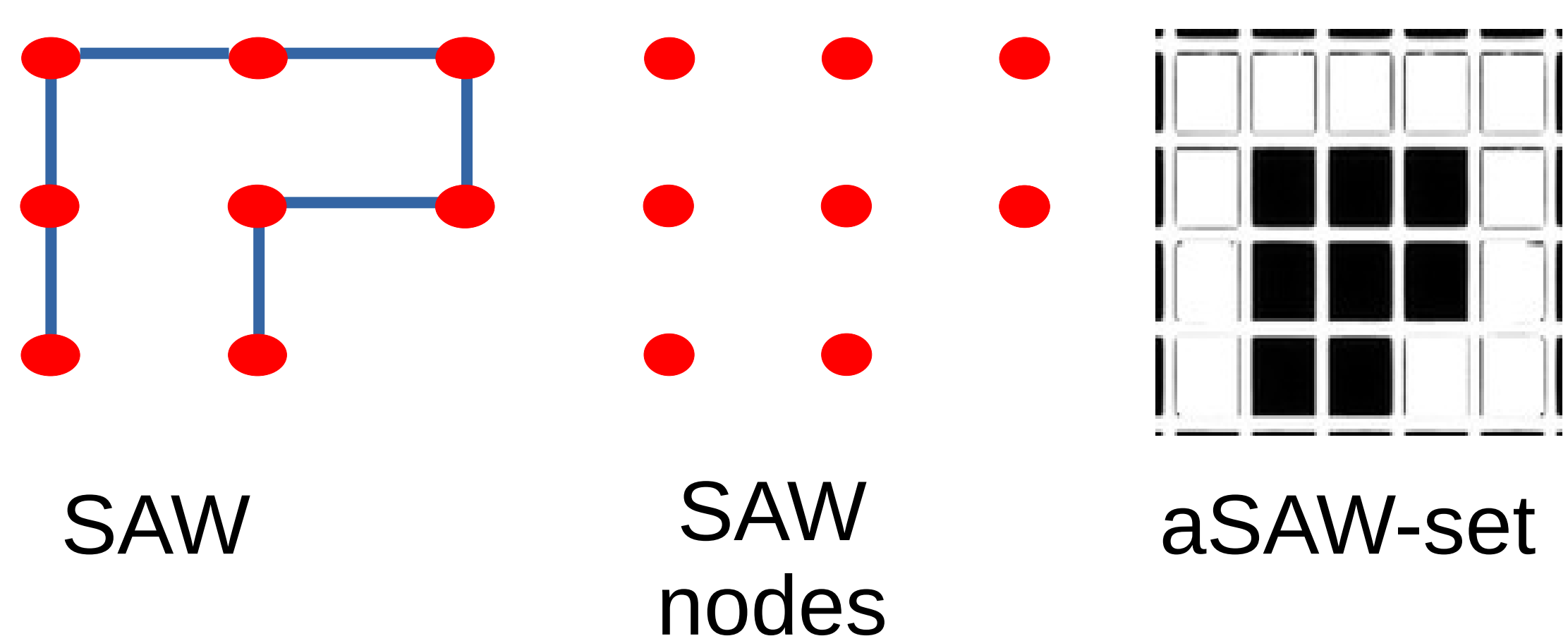


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Objectives

- Long term: generating self-avoiding walks (SAWs) is to model polymers attached to a surface
- This work: generate sets of nodes for which at least one SAWs passes through them (aSAW-set)

From SAW to SAW-set



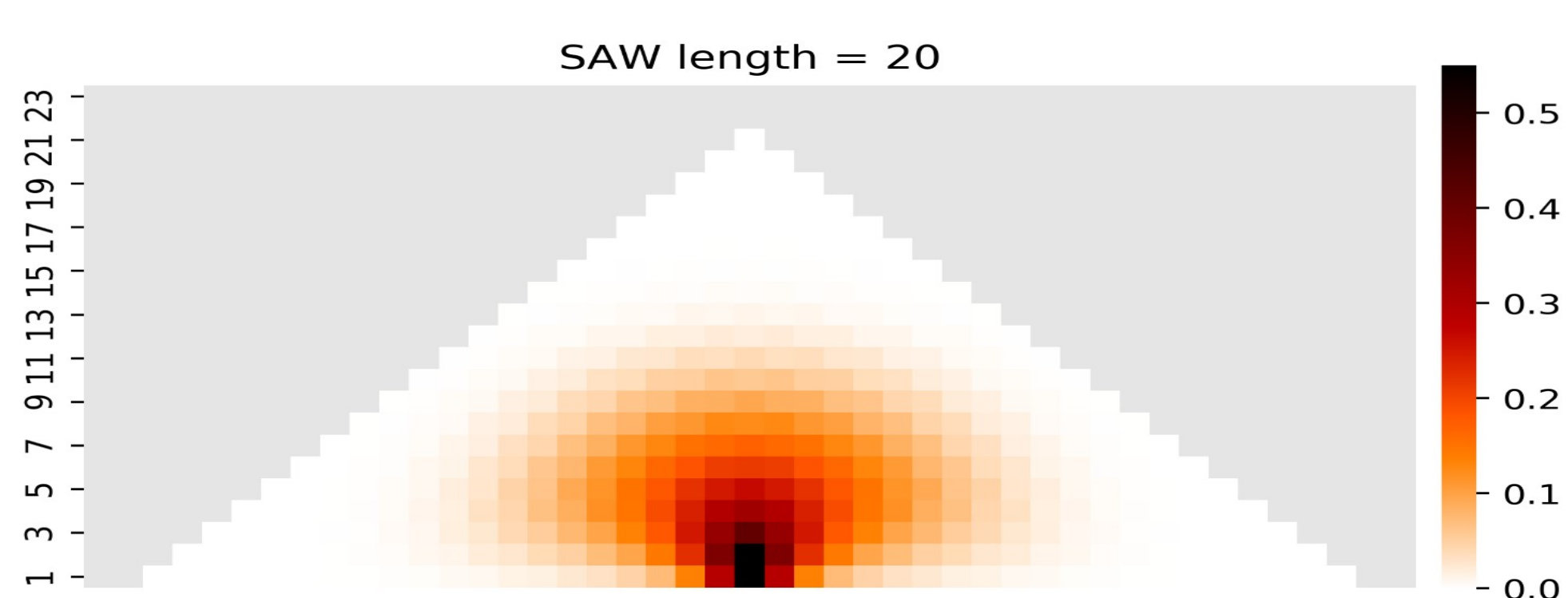
Method



Generative Adversarial Networks are used to train an aSAW-set generator.

Distributions of nodes

Fraction of the SAWS that pass through each node

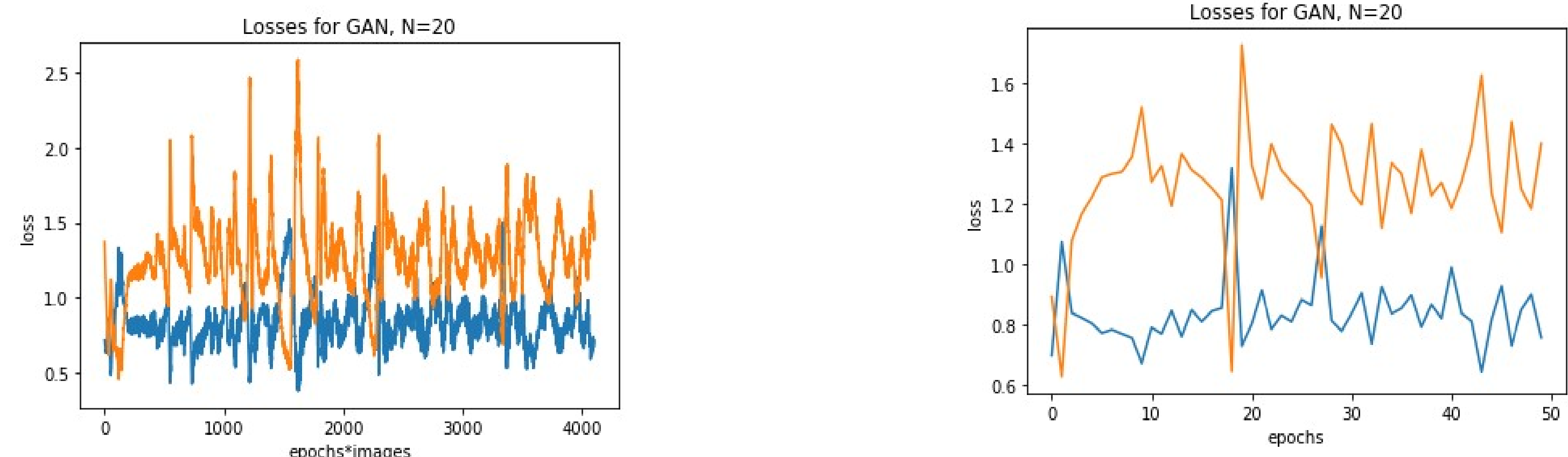


Future work

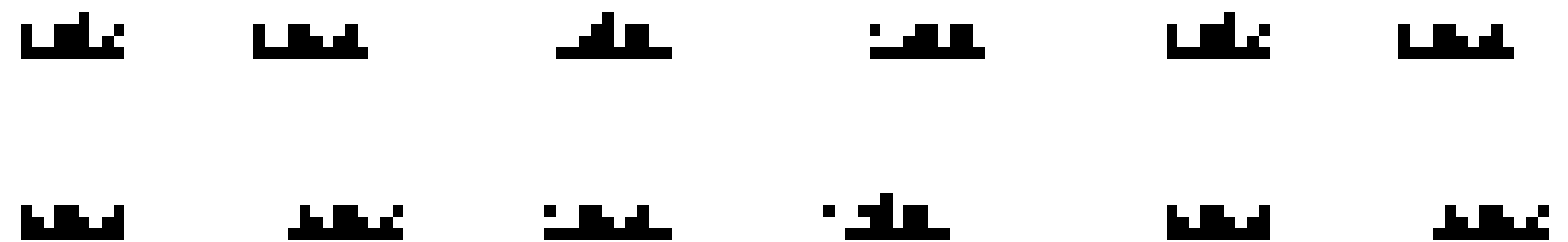
- Modify parameters to increase similarity between the distribution of nodes of the training set and the ones generated by the network.
- Produce sets with better probabilities of being aSAW-sets.
- Increase SAW lengths and numbers.

Results

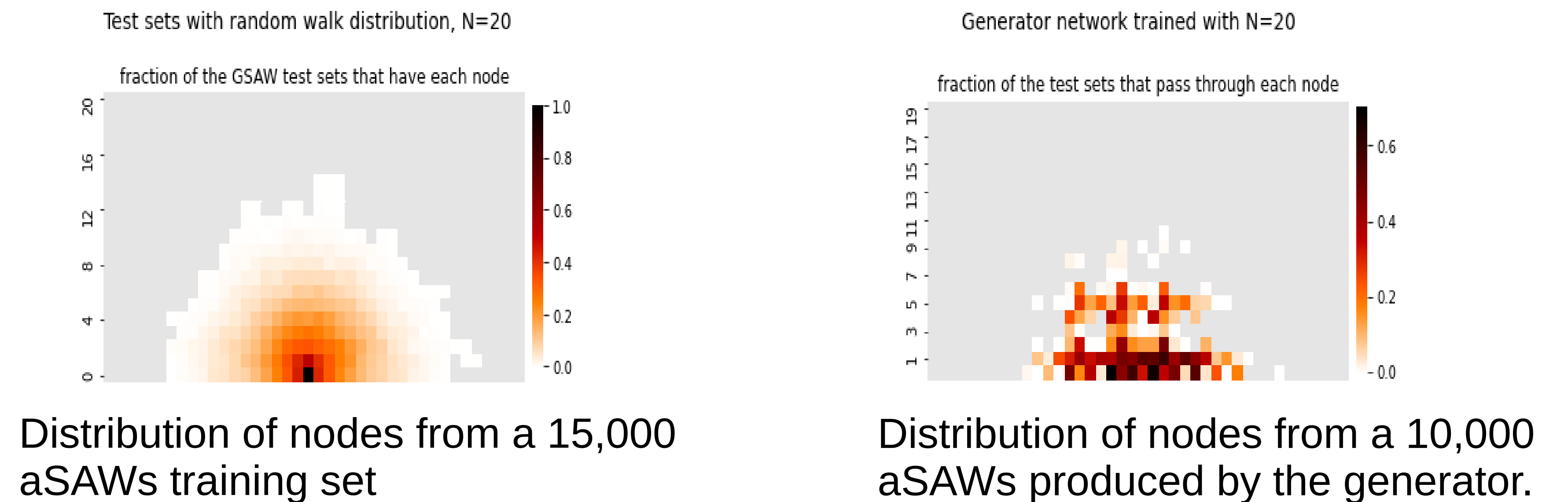
Training



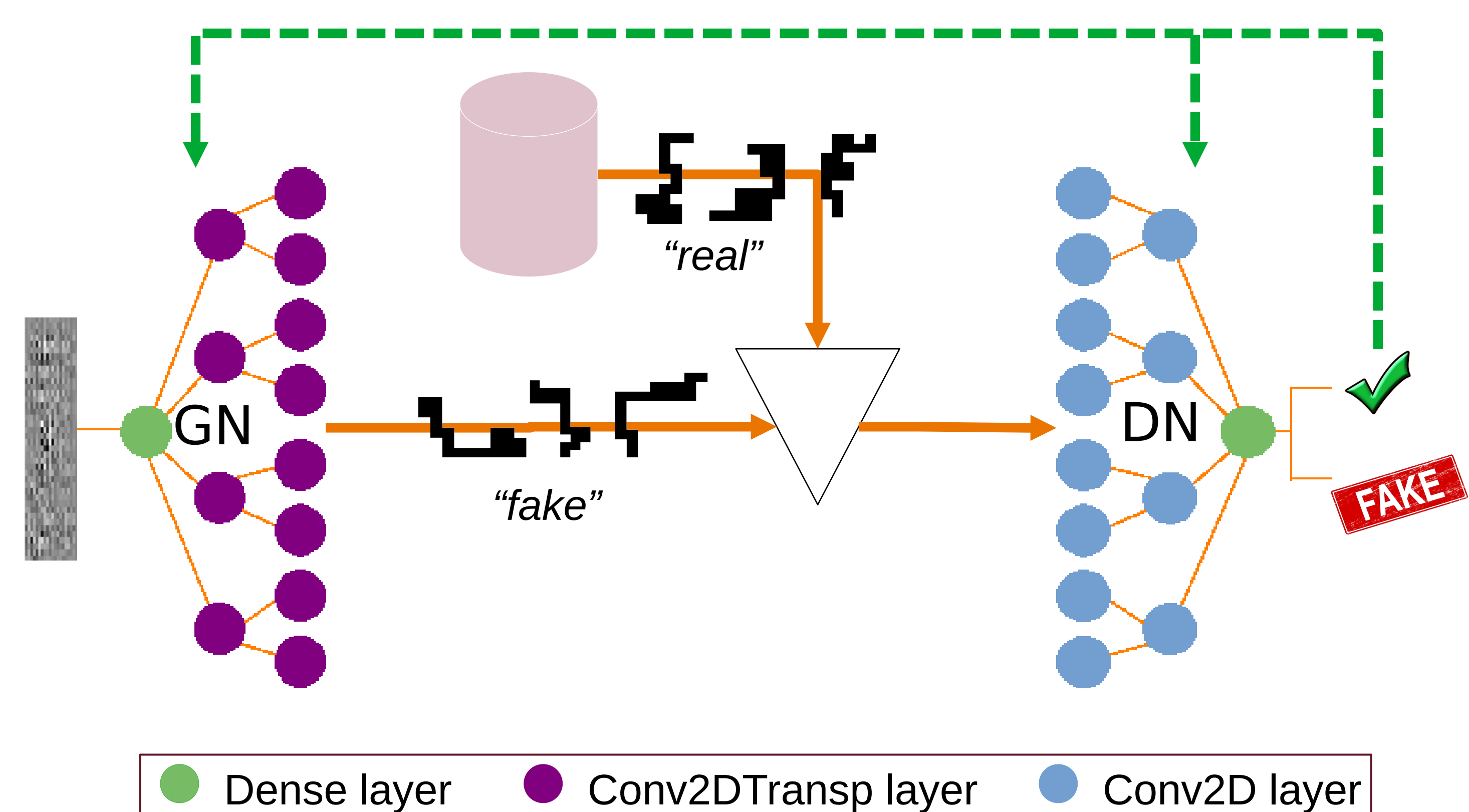
Network-generated sets



Distributions



Generative Adversarial Network



Acknowledgment

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