

# **Agent based Exploration of Self-Organizing Neural Networks**

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In this poster we present our approach for studying the self-organization of neural networks using agent-based modeling. We take inspiration from the self-organization of biological neural networks. We are interested in determining factors in local behavior that generate favorable changes in global network topology. We focus on the effects of pruning on network topology. In our simulations, the network topology uses a Hebbian learning guided pruning algorithm. Rather than focus on network development solely from a constructive perspective, we are also interested in the effects of removing elements from the network. Recent advances in complex network research are used to guide our simulations. An overview of our simulation and results are presented.