Evolving an Agent Based Brain Model using Genetic Algorithms

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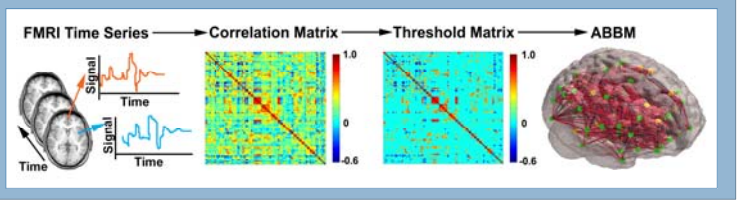
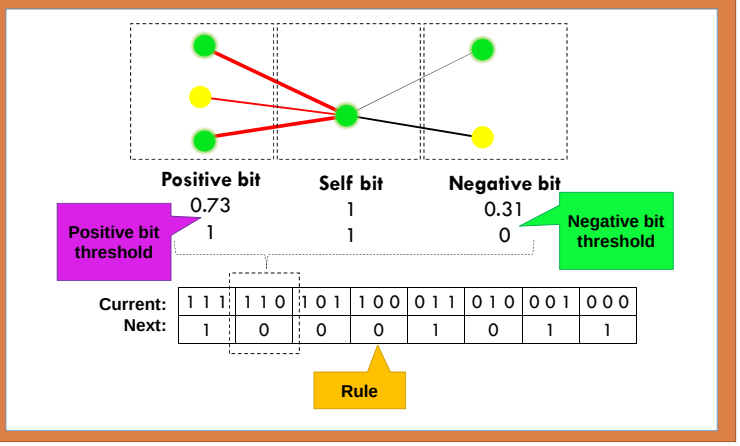
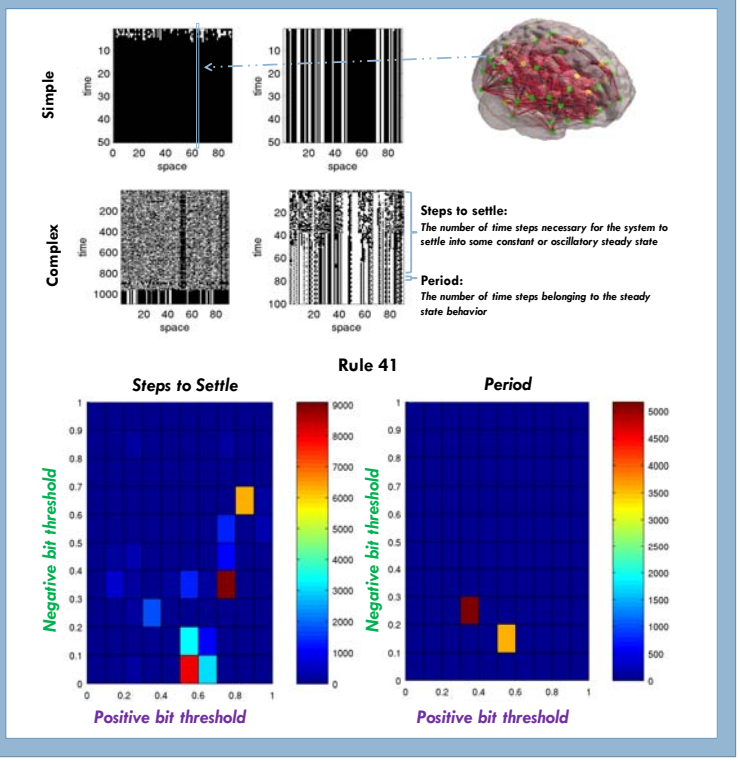
1. The agent based brain model is constructed from a functional brain network.



2. Inputs to each node are summarized into a 3-bit binary neighborhood. A rule updates the state of each node based on its neighborhood.

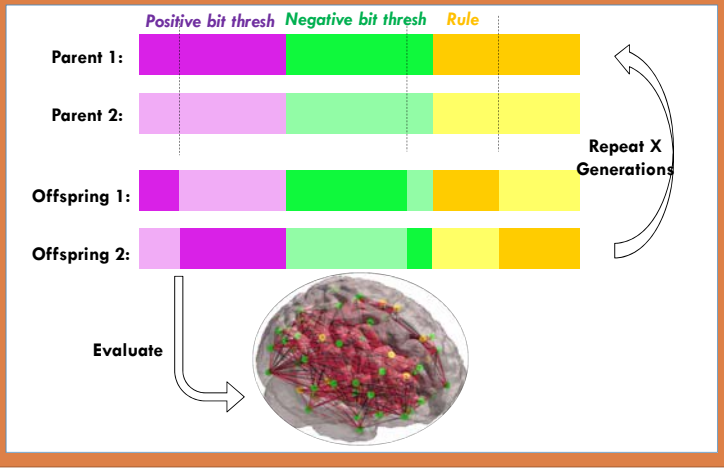


3. By changing three parameters, the agent based brain model can produce a wide range of behaviors. Output is visualized as time-space diagrams.

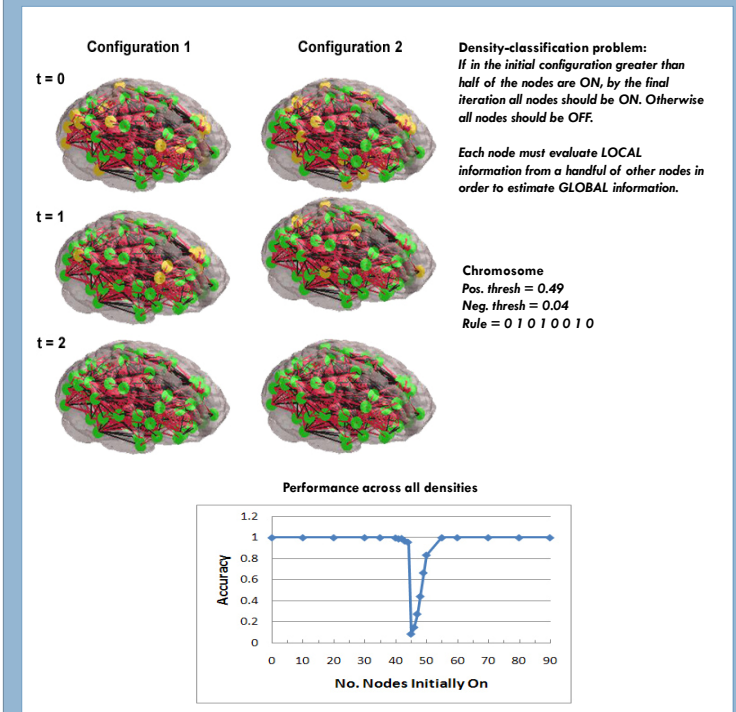


Disclosure: Patent pending on this technology

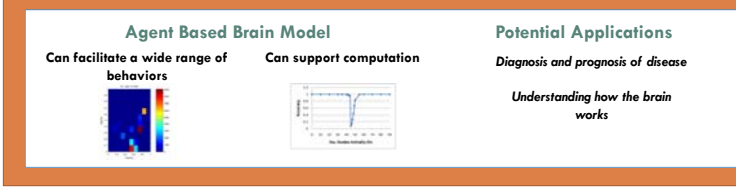
4. Genetic algorithms can search large solution spaces for particular behavior.



5. Genetic algorithms were used to find parameters that allowed the system to solve the density-classification problem, demonstrating that the agent based brain model supports computation.



6. Significance and future applications



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