

Abstract Submitted
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Fitness landscape complexity and the emergence of modularity in neural networks JESSICA LOWELL, Brandeis Univ — Previous research has shown that the shape of the fitness landscape can affect the evolution of modularity. We evolved neural networks to solve different tasks with different fitness landscapes, using NEAT, a popular neuroevolution algorithm that quantifies similarity between genomes in order to divide them into species. We used this speciation mechanism as a means to examine fitness landscape complexity, and to examine connections between fitness landscape complexity and the emergence of modularity.

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