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The unreasonable effectiveness of Genetic Algorithms as a search tool in the string landscape

Friday 1 July 2022 12:30 (30 minutes)

I discuss the use of Genetic Algorithms (GAs) as a search method in string theory. I will describe work showing that, despite intense recent developments in more conventional machine learning methods, GAs remain remarkably effective. Indeed comparison with Reinforcement Learning (RL) shows them to be in some respects superior. I also discuss how GAs and RL can be used in conjunction to make qualitative conclusions about the global structure of the string landscape that are not possible with either method alone.

Presenter: ABEL, Steven Adam (University of Durham (GB))

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