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Towards extreme-scale agent-based simulation with BioDynaMo

Monday, 24 October 2022 12:30 (30 minutes)

Agent-based modeling is a versatile methodology to model complex systems and gain insights into fields as diverse as biology, sociology, economics, finance, and more. However, existing simulation platforms do not always take full advantage of modern hardware and therefore limit the size and complexity of the models that can be simulated.

This talk presents the BioDynaMo platform designed to alleviate these issues, enable large-scale agent-based simulations, and reduce time-to-insight. We will examine BioDynaMo's modular software design and underlying performance optimizations that enable simulations with billions of agents in various research fields.

Experiment context, if any

References

Significance

Presenter: BREITWIESER, Lukas (CERN, ETH Zurich)

Session Classification: Plenary