

AI + Physics

Physics of AI

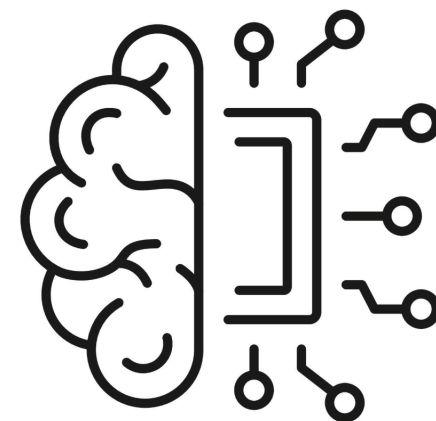


Understanding AI from physical principles

"AI will be as simple as physics"

- Mechanistic interpretability ([pizza](#))
- Phase transitions ([grokking](#), [omnigrok](#), [compression](#))
- Neural scaling law ([quanta](#), [lottery tickets](#))

Physics for AI

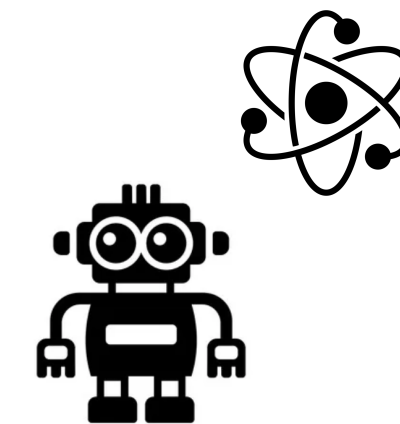


"Physics/Science-inspired AI"

"AI will be as natural as physics"

- Poisson Flow Generative Models ([PFGM](#), [PFGM++](#))
- Generative Physics ([GenPhys](#))
- Brain-inspired Modular Training ([BIMT](#))

AI for Physics



"Boosting physics/science with interpretable AI"

"AI will be as powerful as physicists"

- Conservation laws (AI Poincare [1.0](#), [2.0](#), [3.0](#))
- Discovering physical laws ([NNPhD](#), [PAL](#), [sym](#))
- Growing brains in RNN ([GrowBrain](#))