

NSF Meta-Workshop: AI to Accelerate Science and Engineering Discover
(AI2ASED)

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Cosmology and Astrophysics with Machine Learning Simulations (CAMELS)

Monday 2 October 2023 15:10 (8 minutes)

The Cosmology and Astrophysics with Machine Learning Simulations (CAMELS) project aims to overcome major obstacles limiting our understanding of the fundamental properties of the Universe by (1) providing thousands of state-of-the-art hydrodynamic simulations of cosmological structure formation covering a broad range of sub-grid models for the physics of galaxy formation and (2) developing novel machine learning algorithms to maximize the extraction of information from cosmological surveys while marginalizing over uncertainties in galaxy formation physics. In this lightning talk, I will summarize the CAMELS workshop hosted at the Simons Foundation in the Fall 2022, bringing together a growing community of scientists leveraging the CAMELS Public Data Repository to discuss recent progress, challenges, and future directions.

Author: ANGLAS-ALCAZAR, Daniel (University of Connecticut)

Presenter: ANGLAS-ALCAZAR, Daniel (University of Connecticut)

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