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Towards optimal likelihood-free inference for cosmology with deep learning

Monday, June 27, 2022 3:30 PM (1 hour)

In this talk I will first show with toy examples how deep learning can find optimal summary statistics to extract the maximum information from cosmological data. I will then show how it can also perform really complex tasks like extracting information from very small, highly non-linear, scales while marginalizing over baryonic effects at the field level. I will also present the major challenges this method needs to overcome to achieve its goals.

Presenter: Dr VILLAESCUSA-NAVARRO, Francisco (CCA, Flatiron)