



Contribution ID: 142

Type: **Review**

Capitalizing on Artificial Intelligence for LSS Cosmology (replay)

Thursday, November 30, 2023 10:00 PM (1 hour)

In this review talk, I will show how artificial intelligence can bring tangible benefits to cosmological analysis of large-scale structure.

I will focus on how the use of AI in the framework of Simulations-Based Inference to achieve scientific objectives that would not be attainable with classical 2-pt function analyses. I will show three avenues where, in my opinion, AI can bring the most benefits: reaching the information floor of limited survey data via SBI analysis, accelerating simulations for SBI, and breaking degeneracies between cosmological probes and astrophysical nuisance fields. I will discuss new challenges that come with AI-based analyses. Finally, I will present outlook for exciting future applications for AI analysis of LSS.

Presenter: Prof. KACPRZAK, Tomasz (ETH Zurich/ Swiss Data Science Center)

Session Classification: Review presentations

Track Classification: New York