



INDIAN STATISTICAL INSTITUTE

Theoretical Statistics and Mathematics Unit, Kolkata

LECTURE

Date: June 27, 2023, Tuesday
Time: 04:15 PM

VENUE:

L-infinity
(5th Floor, A.N. Kolmogorov Bhavan), ISI Kolkata

TITLE:

Deconstructing Wasserstein Autoencoders

SPEAKER:

Anish Chakrabarty
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ABSTRACT:

Wasserstein autoencoders (WAE) have established themselves as a formidable deep generative model. Earlier, we studied the non-asymptotic behavior of empirical risks under this setup. This enabled us to establish both latent and reconstruction error bounds from a non-parametric density estimation viewpoint. This time around, we extend the discussion to general smoother classes of distributions and prescribe real architectures to build ideal encoder and decoder networks that ensure latent and reconstruction consistency. On the way, we explore the type and extent of dimensionality reduction offered by encoders, tolerable distortions in latent space, and lossless encodings. We also present empirical evidence based on simulations of real and synthetic data sets.

ALL ARE CORDIALLY INVITED