ICTS OT/ML/PDE seminar (Online)

Title : Manifold learning via sparse self-regularised transport

Speaker : Gilles Mordant (Georg-August-University of Goettingen)

Date : Tuesday, 27th February 2024

Time : 04:00 PM (IST)

Abstract : In this talk, we discuss a method for manifold learning that relies on a symmetric version of the optimal transport problem with a quadratic regularisation. We show that the solution of such a problem yields a sparse and adaptive affinity matrix that can be interpreted as a generalisation of the bistochastic kernel normalisation. We prove that the resulting kernel is consistent with a Laplace-type operator in the continuous limit, discuss geometric interpretations and establish robustness to heteroskedastic noise. We will show a link to maximum likelihood estimation in Gaussian Mixture Model and the Porous Medium Equation. The performance on certain simulated and real data examples will be shown. Some open questions will be discussed across the talk.

Venue : Please click the below link to join the seminar.

https://us02web.zoom.us/j/81379290349

Meeting ID: 813 7929 0349