

Centro de Investigação em Matemática e Aplicações
Departamento de Matemática
Programa de Doutoramento em Matemática

Seminar

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Riemannian statistics for any type of data

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Abstract: In this talk we introduce a novel approach to statistics and data analysis, departing from the conventional assumption of data residing in Euclidean space to consider a Riemannian Manifold. The challenge lies in the absence of vector space operations on such manifolds. Pennek X. et al. in their book Riemannian Geometric Statistics in Medical Image Analysis proposed analyzing data on Riemannian manifolds through geometry, this approach is effective with structured data like medical images, where the intrinsic manifold structure is apparent. Yet, its applicability to general data lacking implicit local distance notions is limited. We propose a solution to generalize Riemannian statistics for any type of data.