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Abstract

Information Geometry & Complexity Science †

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In the first part of my lecture, I will review information-geometric structures and highlight the important role of divergences. I will present a novel approach to canonical divergences which extends the classical definition and recovers, in particular, the well-known Kullback-Leibler divergence and its relation to the Fisher-Rao metric and the Amari-Chentsov tensor.

Divergences also play an important role within a geometric approach to complexity. This approach is based on the general understanding that the complexity of a system can be quantified as the extent to which it is more than the sum of its parts. In the second part of my lecture, I will motivate this approach and review corresponding work.

References

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