Abstracts

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A modeller's perspective on Bayesian Nonparametrics

Bayesian nonparametric analyses have been successful in a wide range of settings. We seek to provide a perspective that explains these extraordinary successes. Salient features include the flexibility of the models, our ability to fit them, and their alignment with our discipline's model-building practices. These features have given rise to many BNP techniques and they hold suggestions for future developments. A close examination of these successes suggests strategies that can improve performance. It also reveals shortcomings of our current techniques.

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Optimal transport based posterior contraction theory for latent structured models

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We will present some basic issues and techniques that are useful for analysing the posterior contraction behaviour of latent mixing measures arising in widely used Bayesian nonparametric models, including infinite mixtures and hierarchical models. Such latent structures play foundational roles in the statistical modelling and computation, but they are also crucial for interpretable inference. While standard tools in the Bayesian nonparametric theory (e.g., KL support of priors, existence of tests) continue to be useful, an additional facet of the theory focusing on the Wasserstein the space of latent mixing measures and its connection, via inverse bounds, to the space of data generating distributions, will be discussed.