

2020 – 2021 Seminar Series

Bayesian inference with nonparametric methods with applications to medicine



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We address nonparametric approaches for extracting information from signals within the Bayesian framework. We work with (a) Gaussian processes and deep Gaussian processes, (b) Dirichlet process mixture models, (c) Yule Simon processes, and (d) particle filtering. We use these approaches in several applications of machine learning, and in this talk we present two applications related to medicine. One is the development of predictive analytics to support and improve the interpretation of electronic fetal monitoring. The ultimate objective of this work is to assist clinicians in making timely decisions about interventions to prevent adverse outcomes. The other application involves studying brain signals to answer questions related to consciousness, and in particular, where and how it arises. Further, we aim at building computer algorithms that can assist neurosurgeons while they perform electrical stimulation on patients in coma.

Wednesday, May 5th @ 11:45AM

Zoom



Faculty Host: Yi-Xian Qin