香港中文大學統計學系
Department of Statistics
THE CHINESE UNIVERSITY OF HONG KONG

SEMINAR

DEPARTMENT OF STATISTICS
THE CHINESE UNIVERSITY OF HONG KONG

Moment propagation

INVITED SPEAKER

John Ormerod
Associate Professor
School of Mathematics and Statistics
University of Sydney

TIME

May 24, 2024 (Fri) · 10:30 am - 11:30 am

VENUE

LSB LT4 · Lady Shaw Building - LT4 · CUHK

ABSTRACT

We introduce and develop moment propagation for approximate Bayesian inference. This method can be viewed as a variance correction for mean field variational Bayes which tends to underestimate posterior variances. We show for some simple models (with two components) that moment propagation can be applied to recover the posterior distribution exactly. We then discuss how this idea can be extended to more complicated models with more than two components and a post-hoc correction that can be applied to any Gaussian based approximate Bayesian inference method. We demonstrate these ideas on a number of models where the moment propagation approximation of the marginal posterior distributions is nearly exact.