Pacific Institute *for the* Mathematical Sciences

PIMS - UBC YOUNG FACULTY AWARD LECTURE

ALEXANDRE BOUCHARD-CÔTÉ

Friday, November 15, 2019
Reception 2:30 pm, Lecture 3:00 pm

Room: ESB 1012
University of British Columbia

SCALABLE APPROXIMATION OF INTEGRALS USING NON-REVERSIBLE METHODS: FROM RIEMANN TO LEBESGUE, AND WHY YOU SHOULD CARE.

Alexandre Bouchard-Côté

Associate Professor of Statistics
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Biography

Dr. Alexandre Bouchard-Côté is an Associate Professor of Statistics with a research focus on computational statistics/ statistical machine learning, and specifically, in the mathematical side of the subject as well as in applications in linguistics and biology. He received his PhD in Computer Science from the University of California, Berkeley in 2010 under the supervision of Michael Jordan and Dan Klein and has since received numerous awards, including the Tweedie, Google Faculty and Martha Piper Awards.

Abstract

How to approximate intractable integrals? This is an old problem which is still a pain point in many disciplines (including mine, Bayesian inference, but also statistical mechanics, computational chemistry, combinatorics, etc).

I will describe novel perspectives on the problem of approximating Lebesgue integrals, coming from the nascent field of non-reversible Monte Carlo methods. In particular, I will present an adaptive, non-reversible Parallel Tempering (PT) allowing MCMC exploration of challenging problems such as single cell phylogenetic trees.

MORE DETAILS: HTTPS://WWW.PIMS.MATH.CA/SCIENTIFIC-EVENT/191115-PUMSYFAAB

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