

# Local limit theorem for Robbins Monro algorithms

*Tuesday, 13 November 2018 09:30 (1 hour)*

The Robbins-Monro algorithm is a recursive, simulation-based stochastic procedure to approximate the zeros of a function that can be written as an expectation. It is known that under some technical assumptions, a Gaussian convergence can be established for the procedure. Here, we are interested in the local limit theorem, that is, quantifying this convergence on the density of the involved objects. The analysis relies on a parametric technique for Markov chains converging to diffusions, where the drift is unbounded.

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