

# Probability Theory from a Programming Perspective

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## Abstract

A leading idea is to apply techniques from verification and programming theory to machine learning and statistics, to deal with things like compositionality and various notions of correctness and complexity. Probabilistic programming is an example of this. Moreover, this approach leads to new foundational methods in probability theory. This is particularly true in the “non-parametric” aspects, for example in higher-order functions and infinite random graph models.

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