Monte Carlo Method in Stochastic Programming

Many stochastic programming problems involve complicated performance measures, such as probability, quantile and other risk measures, of random functions that generally have no closed-form expressions. Monte Carlo methods are often used to evaluate these performance measures and to optimize the stochastic programs.

My work in this area focuses on non-convex stochastic programs, such as chance-constrained programs, and developed sample-based (or data-based) convex approximation algorithms to solve them. I have also worked on robust simulation problems that may be formulated into stochastic programs. Here is the list of publications that we have in this area.

We are currently not active in this area.