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Annealing a GA for Constrained Optimization

We consider the problem of adapting a Genetic Algorithm (GA) to constrained optimization problems, using a dynamic penalty approach as a type of annealing. We present two different methods for ensuring almost sure convergence to a globally optimal (feasible) solution. The first of these involves modifying the GA operators to yield a Boltzmann-type distribution while the second incorporates a dynamic penalty along with a slow annealing of the acceptance probabilities.