

The aim of this thesis is solving minimization problems where the objective function is a sum of a differentiable (yet possibly non-convex) and general convex function. We focus on methods of stochastic and projected gradient descent from machine learning. By combining those two approaches we introduce an algorithm for solving such problems. The work is composed in a gradual manner where we firstly define necessary concepts needed for describing RSPG algorithm. Then we proceed to show the convergence of the algorithm for both convex and non-convex objective functions. A short numerical study is also included at the end.