Nonsmooth DC Optimization: Methods and Applications

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In this talk we consider unconstrained and constrained optimization problems where the objective and/or constraint functions are represented as a difference of two convex (DC) functions. We discuss two different approaches to design methods of nonsmooth DC optimization: an approach based on the extension of bundle methods of nonsmooth optimization and an approach based on the DCA (difference of convex algorithm). We present numerical results and discuss various applications of DC optimization in machine learning.