

On solving bilevel programming problems

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A bilevel programming problem is a sequence of two optimization problems where the constraint region of the upper level problem is determined implicitly by the solution set to the lower level problem. It can be used to model a two-level hierarchical system where the two decision makers have different objectives and make their decisions on different levels of hierarchy. Recently more and more applications including those in machine learning have been modelled as bilevel optimization problems. In this talk, I will present some new necessary optimality conditions for this class of very difficult optimization problems.