

# Nonconvex Optimization: The Min-Max Graph

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We consider finite dimensional smooth optimization problems with compact connected feasible set. A variable (= Riemannian) metric defines ascent and descent semi-flow. This gives rise to a bipartite digraph on the set of local minimizers and maximizers (min-max graph). Active set strategy may cause stable obstructions to the connectedness of the min-max graph. However, by means of an automatic constraint-adaptation of the metric the min-max graph becomes generically connected. In case of a single smooth inequality constraint we give an explicit formula of the metric adaptation. In case of finitely many constraints we propose a logarithmic pre-smoothing and for semi-infinite optimization we discuss a mollifier-pre-smoothing. This is joint work with Oliver Stein (KIT, Karlsruhe)

## References:

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