RICHARD SANTIAGO, ETH Zürich

Non-monotone weakly submodular function maximization subject to a cardinality constraint

Weak submodularity is a natural relaxation of the diminishing return property, which is equivalent to submodularity. Weak submodularity has been used to show that many (monotone) functions that arise in practice can be efficiently maximized with provable guarantees. In this talk we introduce a natural generalization of weak submodularity for non-monotone functions. We show that an efficient randomized greedy algorithm has provable approximation guarantees for maximizing these functions subject to a cardinality constraint.