

中国科学院数学与系统科学研究院
Academy of Mathematics and Systems Science, CAS

图论组合与网络研究中心

Center for Graph Theory, Combinatorics and Networks

学术报告

题目: Improved Analysis of Greedy Algorithm on k -Submodular Knapsack

报告人: 唐中正 博士, 北京邮电大学

时间: 8月15日(星期二) 下午 16:00 - 17:00

地点: 数学院南楼 N602

摘要: A k -submodular function is a generalization of submodular functions that takes k disjoint subsets as input and outputs a real value. It captures many problems in combinatorial optimization and machine learning such as influence maximization, sensor placement, etc. In this work, we consider the monotone k -submodular maximization problem under a knapsack constraint, and explore the performance guarantee of a greedy-based algorithm: enumerating all size-2 solutions and extending every singleton solution greedily; the best outcome is returned. We provide a novel analysis framework and prove that this algorithm achieves an approximation ratio of at least 0.328.

个人简介: 唐中正博士, 北京邮电大学理学院讲师, 硕士生导师, 主要从事组合优化和图论方面的理论和应用研究。2020年博士毕业于中科院数学与系统科学研究院, 同年联合培养博士毕业于香港城市大学。