

题目: Stochastic Approximation Methods for Nonconvex Constrained Optimization

报告人: Xiao Wang, Associate Professor, Pengcheng Laboratory

邀请人: Xin Liu, Professor

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摘要:

Nonconvex constrained optimization (NCO) has been one of the important research fields in optimization community. It has widely appeared in many application fields. However, challenges for solving NCO often arise due to larger scale of data and uncertainty involved in optimization models. In this talk, I will briefly introduce our recent progress on stochastic approximation (SA) methods for NCO, including stochastic primal-dual methods for problems with a large number of constraints and a nest structure, respectively, a zeroth-order SA method for NCO to explore the complexity dependence on dimensionarity and a SA method for nonconvex equality constrained optimization to pursue second-order stationarity.

个人简介: 王晓, 鹏城实验室副研究员、博士生导师。2007年本科毕业于山东大学数学基地班, 2012年博士毕业于中国科学院数学与系统科学研究院计算数学专业。2012年至2021年任职于中国科学院大学数学科学学院。2021年底加入鹏城实验室。研究方向为非线性优化理论与算法。研究成果发表在 *SIAM J. Optim.*, *Math. Comput.*, *SIAM J. Imaging Sci.*, *SIAM J. Numer. Anal.*, *J. Sci. Comput.* 等国际知名期刊。先后入选中国科协第四届青年人才托举工程、中国科学院青年创新促进会第十批会员、广东省珠江人才计划青年拔尖人才、深圳市鹏城孔雀特聘计划。于2020年荣获中国科学院大学领雁银奖、于2022年荣获第八届中国运筹学会青年科技奖。先后主持三项国家自然科学基金项目、一项鹏城实验室重大攻关项目子课题。目前担任中国运筹学会智能工业数据解析与优化专业委员会理事、中国运筹学会数学规划分会青年理事。