Título: **Mathematical Programming for Continuous and Combinatorial Classification Problems on Big Data.**

Data: **19/09/2016** Horário: **10h** Local: **Sala de Seminários do Bloco 952**

Resumo:

Motivated by the significant advances in integer optimization in the past decade, we show mixed-integer optimization methods to the classical statistical problems of classification of a software package called CRIO (classification and regression via integer optimization). CRIO separates data points into different polyhedral regions. In classification each region is assigned a class. Computational experimentations with generated and real data sets show that CRIO is comparable to and often outperforms the current leading methods in classification. We hope that these results illustrate the potential for significant impact of integer optimization methods on computational statistics and data mining. We also propose a new classification problem of graph classification where classes are closed by geodesic convexity propriety and introduce mixed integer optimization based aprpoachs for this problem.

Banca:

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