

Greedy update strategies for kernel-based approximation algorithms

Armin Iske
University of Hamburg

Abstract: Kernel-based scattered data approximation requires suitable update strategies, where each update is accomplished by the insertion of new data points. This talk discusses the construction of greedy update strategies, which are particularly useful to improve the performance of multi-scale approximation schemes. To this end, we explain recent results on the convergence, the numerical stability and the computational efficiency of greedy approximation algorithms. For the purpose of illustration, we finally present numerical results concerning applications in computerized tomography.