

Refined Bounds for Online Pairwise Learning Algorithms

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Abstract

In this presentation, I will talk about the generalization performance of Online Pairwise LEaRning Algorithm (OPERA) in a reproducing kernel Hilbert space (RKHS) without an explicit regularization. Our study is motivated by the recent growing interest in pairwise learning problems. We establish convergence rates which can be arbitrarily closed to $O(T^{-\frac{1}{2}})$ for OPERA within T iterations, which largely improves the existing convergence rates for OPERA. Our novel analysis is conducted by showing the boundedness of the iterates encountered in the learning process in high probability after establishing an induction lemma on refining the RKHS norm of the iterates.

Joint work with Dr. Yunwen Lei.