Session 4: Data-driven Modeling and Learning
14:00 – 14:40, 15th, July

Learning Theory Approach to A Family of Regularized M-Estimators
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In this report, we investigate the classical regression problem and our purpose here is to approximate the conditional mean of an unknown probability distribution. Starting with a non-convex loss function introduced in an information-theoretical learning setup, we give a general learning theory analysis. We then show that our analysis can be extended to a family of regularized M-estimators. Roughly speaking, we present a new framework of deriving the generalization bounds for a family of convex or nonconvex learning schemes.