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What Forms of Collusion Can Be Avoided in Sample-Efficient Machine Teaching?

In this presentation, we introduce the first batch machine teaching framework with sample complexity bounded by VC dimension. The structure of the talk is as follows: We begin by introducing formal models for learning with a teacher and learning with random examples. Next, we explore the concept of VC dimension and its relationship to PAC-learnability. We then discuss the importance of ensuring a collusion-free environment in machine teaching to avoid coding tricks, and we address its limitations. Finally, we present our novel teaching complexity parameter, STD_{min} , and discuss its benefits.