

Statistically Enhanced Learning

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Extended Abstract

Feature engineering is of critical importance in the field of Data Science. While any data scientist knows the importance of rigorously preparing data to obtain good performing models, only scarce literature formalizes its benefits. In this talk, we present the method of Statistically Enhanced Learning (SEL), a formalization framework of existing feature engineering and extraction tasks in Machine Learning (ML). Contrary to existing approaches, predictors are not directly observed but obtained as statistical estimators. We will present a formalized framework and illustrate the improved performance of SEL by means of simulations as well as applications on various practical use cases.