Department of Decision Sciences

Occasional Seminar

Deep Tree Predictors

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Abstract

We develop the class of deep tree predictors for the construction of a high dimensional input-output learning machine. Deep learners have achieved recent empirical predictive success in high dimensional learning problems. Deep tree predictors build on this success by directly using a non-differentiable tree activation functions at the first layer of the architecture. In doing so, this provides more flexibility than traditional machine learner and leads to improved predictive performance that handles the curse of dimensionality. We illustrate our methodology in a non-parametric regression problem and contrast our fitted machine with a random forest. Finally, we conclude with directions for future research.

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