

Machine Learning in Finance

Bernt Arne Ødegaard

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1 Introduction

Machine Learning is a much-abused innovation. One way to summarize it is that it fits flexible functional forms to data (also known as nonlinear regressions). Machine learning can search for nonlinear relationships between the data.

We will use Gu, Kelly, and Xiu (2020) as a source on the potential usage of Machine Learning for asset pricing purposes.

Gu et al. (2020) defines Machine Learning as “(a) a diverse collection of high-dimensional models for statistical prediction, combined with (b) so-called “regularization” methods for model selection and mitigation of overfit, and (c) efficient algorithms for searching among a vast number of potential model specifications.”

References

Shihao Gu, Bryan Kelly, and Dacheng Xiu. Empirical Asset Pricing via Machine Learning. *The Review of Financial Studies*, 33(5):2223–2273, 02 2020. doi: 10.1093/rfs/hhaa009.