

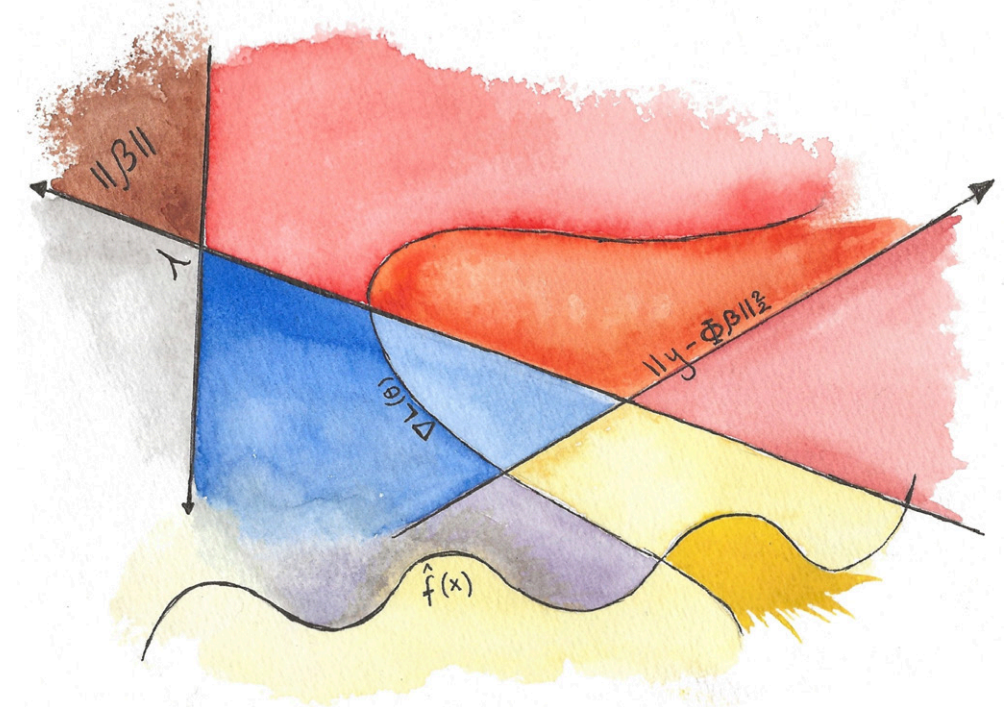
# Efficient training of interpretable, non-linear regression models

Regression, the process of estimating functions from data, comes in many flavors. One of the most commonly used regression models is linear regression, which is computationally efficient and easy to interpret, but lacks in flexibility. Non-linear regression methods, such as kernel regression and artificial neural networks, tend to be much more flexible, but also harder to interpret and more difficult, and computationally heavy, to train.

In this thesis, different techniques for combining flexibility with interpretability and computational efficiency, are investigated. This is obtained through sparsely regularized neural networks, by replacing explicit regularization with early stopping, and by informed bandwidth selection for kernel regression.



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