The strong universal consistency of the kernel estimate and the kNN estimate

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In our presentation, we are going to discuss the strong universal consistency of two commonly used non-parametric regression estimators, namely the kernel estimate and the k-nearest neighbor (kNN) estimate.

We begin with a brief reminder of these estimators and the concept of strong (universal) consistency.
We then go on to talk about the strong (universal) consistency for the kernel estimate, which shows that the estimator converges almost surely to the regression function, given some mild assumptions. We will also present a quick overview of the proof.
Analogous, we present the strong (universal) consistency for the kNN estimate and provided a quick overview of the proof as well.
We then compare the strong universal consistency of both estimators with their weak universal consistency.
Afterwards, we clarify any questions regarding the proofs and the concept of strong (universal) consistency.

In the programming part of the lecture, we demonstrate how to implement the kernel estimate and the kNN estimate using Python. We will demonstrate this using an illustrative example, in which we will interactively engage with the audience.
Finally, we provide an opportunity for the audience to ask any further questions they have about the lecture content.