Title: Kernel density estimation

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Abstract: Kernel density estimates are a widespread method for estimating unknown density. This thesis deals with the introduction to the theory of kernel density estimation, basic theoretical knowledge in this area and introduction to methods for choosing the bandwidth. We take a closer look at the so-called plug-in methods, namely the Sheather-Jones and Hall-Marron methods. In addition to the theoretical aspects, the thesis also focuses on the practical implementation of kernel density estimates on real data in the statistical software R.

Keywords: density, kernel function, density estimation, bandwidth choice