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2. November 2016

Einladung zum Vortrag

von

Sergey Nasibyan
Lomonosov Moscow State University, Russia

Mutual information estimation and feature selection

This talk is devoted to the estimation problems of a mutual information $MI(X, Y)$ where X and Y are random variables. Recall that $MI(X, Y) := H(X) + H(Y) - H(X, Y)$ where $H(\cdot)$ stands for the Shannon entropy. Note that in contrast to the correlation coefficient, $MI(X, Y) = 0$ if and only if X and Y are independent. We concentrate on the generalization of the Kazachenko-Leonenko estimators. Namely, we consider the estimators involving the k-nearest neighbor statistics. The properties of unbiasedness and consistency of estimates are studied. We also discuss an idea of "greedy search" and provide its application to the algorithms of feature selection by means of mutual information in data analysis. Special attention is paid to the stopping criterion. For this purpose the resampling techniques are employed.

Termin: Dienstag, 22. November 2016, 14 Uhr

Ort: Universität Ulm, Helmholtzstr. 18, Raum 220

Interessenten sind herzlich eingeladen.
Der Vortrag findet im Rahmen des Forschungsseminars des Institutes für Stochastik statt.

gez. E. Spodarev