KATHOLIEKE UNIVERSITEIT LEUVEN

Doctoral Seminar in Statistics

Joint organization by
ORSTAT, Faculty of Business and Economics and the Statistics Research Group, Faculty of Science
Leuven Statistics Research Center

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A multiresolution approach to time warping achieved by a Bayesian prior-posterior transfer fitting strategy

Thursday March 12, 2009
13:30—14:30 (!!)

Location: Room HOGS **01.10**, Naamsestraat 69, Leuven.

Supporting research project: GOA-project 2007/04

Abstract:
The procedure known as warping aims at reducing phase variability in a sample of functional curve observations, by applying a smooth bijection to the argument of each of the functions. We propose a natural representation of warping functions in terms of a new type of elementary function named 'warping component functions' which are combined into the warping function by composition. A sequential Bayesian estimation strategy is introduced, which fits a series of models and transfers the posterior of the previous fit into the prior of the next fit. Model selection is based on a warping analogue to wavelet thresholding, combined with Bayesian inference.