Hamilton Institute

State-Space Time-Series Gaussian Processes in Dynamic Systems Modelling

Keith Neo

Hamilton Institute, NUI Maynooth

Friday, October 13th, 2006

Abstract

In Bayesian stochastic processes, prior information is extremely important, particularly in non-parametric modelling. Taking into account of nonlinear dynamic systems, where measurements consist of noise and it is of interest to identify and define the relationship between the input and output measurements using Gaussian processes. Unfortunately, large-scale datasets are explicitly impossible by such direct application. A novel approach of using State-Space Time-Series Gaussian Process exploits the information available in the time-series domain, and combine those available in the state-space domain, making it an improved and enhanced technique in the area of system identification and data analysis for state-space modelling. Fast algorithm, using the generalised Schur algorithm, has been incorporated within the model to ensure fast and efficient computation of the stochastic process.

Venue: Seminar Room, Hamilton Institute, Rye Hall
NUI Maynooth

Time: **2.00 - 3.00pm** (followed by tea/coffee)

Travel directions are available at www.hamilton.ie

IEEE
CC Ireland Chapter