

MULTIPLE MODEL LEARNING FOR MODELLING AND CONTROL

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Abstract: This paper presents local methods for modeling and control of nonlinear dynamical systems, when only a limited amount of input-output data is available. It is proposed a memory-based technique for selecting the the best model configuration by comparing different alternatives. A recursive technique for local model identification and validation is presented, together with an enhanced statistical method for model selection. Also, a method that combines the linearization provided by the local learning techniques with optimal linear control theory, is described to control nonlinear systems about regimes which are far from the equilibrium points.

Keywords: learning, multimodel, optimal control

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