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Vortragsankündigung

Seminar Regelungssysteme LV 0430L654

Montag, 29. Oktober 2012, 10:30 Uhr
Vortragsort: EN 223

Prof. Jian-Hua Zhang
East China University of Science and Technology

"Pattern Classification of Human Mental Workload and Fatigue by Combining Recursive Feature Elimination and Support Vector Classification Techniques"

Operator functional state (OFS) is closely correlated to human mental workload and mental fatigue in complex and safety-critical human-machine cooperative control systems. Based on the least square support vector machine (LSSVM) and recursive feature elimination approaches, the psychophysiological markers (or features) most sensitive to the change in the level of those two factors (i.e., mental workload and fatigue) were determined. Then a nonlinear LSSVM was trained to objectively recognize the high level of mental workload and fatigue. The pertinent analysis of the measured data has demonstrated that the proposed method can effectively eliminate the redundant features of the two different dimensions of OFS without the loss of classification accuracy.