

1. Record Nr.	UNINA9910706215803321
Autore	Harris Charles E. <1950->
Titolo	A practical engineering approach to predicting fatigue crack growth in riveted lap joints / / C.E. Harris, R.S. Piascik and J.C. Newman, Jr
Pubbl/distr/stampa	Hampton, Virginia : , : National Aeronautics and Space Administration, Langley Research Center, , May 2000
Descrizione fisica	1 online resource (21 pages) : illustrations
Collana	NASA/TM ; ; 2000-210106
Soggetti	Crack propagation Fatigue (materials) Rivets Predictions Numerical analysis Lap joints
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"May 2000." "Performing organization: NASA Langley Research Center"--Report documentation page.
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2. Record Nr.	UNINA9910830081303321
Autore	Farrell Jay
Titolo	Adaptive approximation based control [[electronic resource]] : unifying neural, fuzzy and traditional adaptive approximation approaches / / Jay A. Farrell, Marios M. Polycarpou
Pubbl/distr/stampa	Hoboken, N.J., : Wiley-Interscience, c2006
ISBN	1-280-44804-0 9786610448043 0-470-32501-1 0-471-78181-9 0-471-78180-0
Descrizione fisica	1 online resource (440 p.)
Collana	Wiley series in adaptive and learning systems for signal processing, communication and control
Altri autori (Persone)	PolycarpouMarios
Disciplina	629.8
Soggetti	Adaptive control systems Feedback control systems
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Formato	Materiale a stampa
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Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references (p. 401-415) and index.
Nota di contenuto	ADAPTIVE APPROXIMATION BASED CONTROL; CONTENTS; Preface; 1 Introduction; 1.1 Systems and Control Terminology; 1.2 Nonlinear Systems; 1.3 Feedback Control Approaches; 1.3.1 Linear Design; 1.3.2 Adaptive Linear Design; 1.3.3 Nonlinear Design; 1.3.4 Adaptive Approximation Based Design; 1.3.5 Example Summary; 1.4 Components of Approximation Based Control; 1.4.1 Control Architecture; 1.4.2 Function Approximator; 1.4.3 Stable Training Algorithm; 1.5 Discussion and Philosophical Comments; 1.6 Exercises and Design Problems; 2 Approximation Theory; 2.1 Motivating Example; 2.2 Interpolation 2.3 Function Approximation2.3.1 Offline (Batch) Function Approximation; 2.3.2 Adaptive Function Approximation; 2.4 Approximator Properties; 2.4.1 Parameter (Non) Linearity; 2.4.2 Classical Approximation Results; 2.4.3 Network Approximators; 2.4.4 Nodal Processors; 2.4.5 Universal Approximator; 2.4.6 Best Approximator Property; 2.4.7 Generalization; 2.4.8 Extent of Influence

Function Support; 2.4.9 Approximator Transparency; 2.4.10 Haar Conditions; 2.4.11 Multivariable Approximation by Tensor Products; 2.5 Summary; 2.6 Exercises and Design Problems; 3 Approximation Structures; 3.1 Model Types
 3.1.1 Physically Based Models 3.1.2 Structure (Model) Free Approximation; 3.1.3 Function Approximation Structures; 3.2 Polynomials; 3.2.1 Description; 3.2.2 Properties; 3.3 Splines; 3.3.1 Description; 3.3.2 Properties; 3.4 Radial Basis Functions; 3.4.1 Description; 3.4.2 Properties; 3.5 Cerebellar Model Articulation Controller; 3.5.1 Description; 3.5.2 Properties; 3.6 Multilayer Perceptron; 3.6.1 Description; 3.6.2 Properties; 3.7 Fuzzy Approximation; 3.7.1 Description; 3.7.2 Takagi-Sugeno Fuzzy Systems; 3.7.3 Properties; 3.8 Wavelets; 3.8.1 Multiresolution Analysis (MRA); 3.8.2 MRA Properties
 3.9 Further Reading 3.10 Exercises and Design Problems; 4 Parameter Estimation Methods; 4.1 Formulation for Adaptive Approximation; 4.1.1 Illustrative Example; 4.1.2 Motivating Simulation Examples; 4.1.3 Problem Statement; 4.1.4 Discussion of Issues in Parametric Estimation; 4.2 Derivation of Parametric Models; 4.2.1 Problem Formulation for Full-State Measurement; 4.2.2 Filtering Techniques; 4.2.3 SPR Filtering; 4.2.4 Linearly Parameterized Approximators; 4.2.5 Parametric Models in State Space Form; 4.2.6 Parametric Models of Discrete-Time Systems 4.2.7 Parametric Models of Input-Output Systems 4.3 Design of Online Learning Schemes; 4.3.1 Error Filtering Online Learning (EFOL) Scheme; 4.3.2 Regressor Filtering Online Learning (RFOL) Scheme; 4.4 Continuous-Time Parameter Estimation; 4.4.1 Lyapunov-Based Algorithms; 4.4.2 Optimization Methods; 4.4.3 Summary; 4.5 Online Learning: Analysis; 4.5.1 Analysis of LIP EFOL Scheme with Lyapunov Synthesis Method; 4.5.2 Analysis of LIP RFOL Scheme with the Gradient Algorithm; 4.5.3 Analysis of LIP RFOL Scheme with RLS Algorithm; 4.5.4 Persistency of Excitation and Parameter Convergence
 4.6 Robust Learning Algorithms

Sommario/riassunto

A highly accessible and unified approach to the design and analysis of intelligent control systems Adaptive Approximation Based Control is a tool every control designer should have in his or her control toolbox. Mixing approximation theory, parameter estimation, and feedback control, this book presents a unified approach designed to enable readers to apply adaptive approximation based control to existing systems, and, more importantly, to gain enough intuition and understanding to manipulate and combine it with other control tools for applications that have not been encountered b