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Download Free Interface Fundamentals In elements (called artificial neurons) which are controlled by adaptive parameters and are able to incorporate via learning the knowledge provided by the environment, and thus

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Download Free Interface Fundamentals In respond intelligently to new stimuli. Fuzzy logic (FL) provides the means to build systems that can reason linguistically under uncertainty like the human experts (common

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Download Free Interface Fundamentals In sense reasoning). Both NNs and FL I FR are among the most widely used tools for modeling unknown systems with nonlinear behavior. FL suits better when there is some kind of knowledge

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Download Free Interface Fundamentals In about the system. such as, for example, the linguistic information of a human expert. On the other hand. NNs possess unique learning and generalization

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Download Free Interface Fundamentals In capabilities that allow the user to construct very accurate models of nonlinear systems simply using input-output data. GAs offer an interesting set of generic tools for

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three tools (NNs, FL, GAs)

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Download Free Interface Fundamentals In sociophysical, Controlled econophysical, etc. As their names suggest, all these multi?inputering multi?output (MIMO) systems have something in common: the underlying

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Download Free Interface Fundamentals In of the current monograph. This was achieved by solving three separate tasks that are essential for solving the problem of cooperative manipulation as a whole. The first task is related to the understanding of the physical nature of cooperative manipulation

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Download Free Interface Fundamentals In and finding a way for a sufficiently exact characterization of cooperative system statics. kinematics and dynamics. After successfully completing this task, in the frame of the second task, the problem of coordinated motion of the cooperative

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Download Free Interface Fundamentals In system is solved. Finally, as a solution to the third task, the control laws of cooperative manipulation are synthesized. The starting point in dealing with the above three tasks of cooperative manipulation was the assumption that the problem of force

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Download Free Interface Fundamentals In uncertainty in cooperative manipulation can be resolved by introducing elastic properties into the cooperative system, at least in the part where force uncertainty appears. In static and dynamic analysis of the elastic structure of cooperative systems

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Download Free Interface Fundamentals In the finite element method is applied. In contrast to the procedure used in the major part of the available literature where deformation work is expressed by deviations from the unloaded state of fixed elastic structure, in this monograph the deformation work is

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Download Free Interface Fundamentals In expressed by internal forces as a function of the absolute coordinates of contacts of mobile elastic structure. Coordinated motion and control in cooperative manipulation are solved as the problem of coordinated motion and control of a mobile elastic structure,

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Download Free Interface Fundamentals In taking into account the specific features of cooperative manipulation. Coordinated motion and control laws in cooperative manipulation are synthesized on the basis of a non-linear model where the problem of uncertainty is solved, which is not the

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Download Free Interface Fundamentals In case in the available literature. Simple examples demonstrate the consistent procedure of mathematical modeling and synthesis of nominal coordinated motion, as well as control of the cooperative system. This book will be useful to a wide audience of engineers,

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