Machine Vision and Mechatronics in Practice - John Billingsley 2015-01-12 The contributions for this book have been gathered over several years from conferences held in the series of Mechatronics and Machine Vision in Practice, the latest of which was held in Ankara, Turkey. The essential aspect of this book is its emphasis on practical applications rather than the derivation of mere theory. Though simulations and visualization are important components, the focus remains on solving real-world problems. This is why the book continues to be a hot topic, both from the need for navigation and for the task of stabilization of unmanned aerial vehicles. The operation of a spray rig is damped, while machine vision is used for the control of painting in an aircraft-laying machine. Stabilization is important, both for general tasks and in the form of robotic arms. A robot is proposed for attending to the boarding process of the elderly. Can EEG signals be a means to control a robot? Can face recognition be achieved in varying illumination? 

Control of Gantry Crane System Based on Fuzzy Logic Technique - Azlia Abdul Rahman 2013

Foundations of Control Optimization - Sven 2017-01-27 This is a comprehensive overview of the basics of fuzzy control, which also brings together some recent research results in soft computing, in particular fuzzy logic using genetic algorithms and neural networks. This book offers readers not only a solid background but also a snapshot of the current state of the art in this field.

Fuzzy Logic for Embedded Systems Applications - Ahmad Ibrahim 2004 Fuzzy Logic for Embedded Systems Applications, by a recognized expert in the field, covers all the basic theory relevant to electronic design, with particular emphasis on embedded systems, and shows how the techniques can be applied to robotics, control, and robotic problems that are tough to solve using conventional linear techniques. All the latest advances in the field are discussed and practical circuit design examples presented. Fuzzy logic is proving to be particularly suitable for many embedded control applications. The attractor nature of the fuzzy-based system design means regulated time and reliable costs by shortening product development cycles and making systems maintainable and upgradeable easier. Yet despite its wide acceptance and perhaps because of its nature it is still misunderstood and feared by many engineers. There is a need for embedded systems designers both hardware and software to get up to speed on the principles and applications of fuzzy logic in order to ensure that when and how to use them appropriately. Fuzzy Logic for Embedded Systems Applications provides practical guidelines for designing efficient circuits and devices for embedded systems using fuzzy-based logic. It covers both theory and applications with design examples. It identifies the main benefits of fuzzy electronics from an engineering point of view: Fuzzy logic can be used for many applications in areas such as medicine and robotics. It also includes an overview of the field. 

Handbook of Fuzzy Computation - 2010-03-05 Initially conceived as a methodology for the representation and manipulation of imprecise and vague information, fuzzy computation has found wide use in problems that fall well beyond its originally intended scope of applications. Many scientists and engineers now view the paradigm of fuzzy computation as a technique that can often be used in solving problems that fall well beyond its originally intended scope of applications. Many scientists and engineers now view the paradigm of fuzzy computation as a technique that can often be used in solving problems that fall well beyond its originally intended scope of applications. Many scientists and engineers now view the paradigm of fuzzy computation as a technique that can often be used in solving problems that fall well beyond its originally intended scope of applications.