

NEW AND FORTHCOMING

ROBOTICS AND AUTOMATED SYSTEMS

2011 / 12

New Frontiers in Robotics - Vol. 3

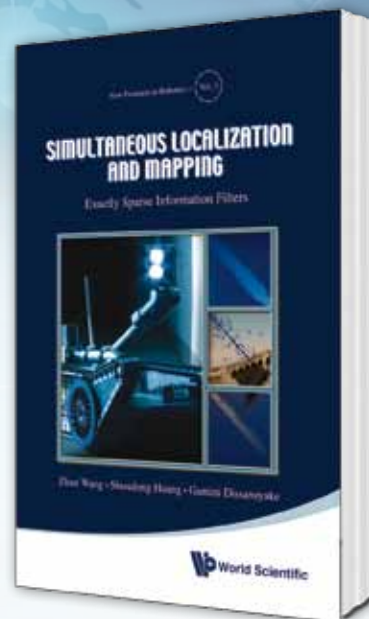
SIMULTANEOUS LOCALIZATION AND MAPPING: Exactly Sparse Information Filters

by **Zhan Wang** (University of Technology, Sydney), **Shoudong Huang** (University of Technology, Sydney), & **Gamini Dissanayake** (University of Technology, Sydney)

Simultaneous localization and mapping (SLAM) is a process where an autonomous vehicle builds a map of an unknown environment while concurrently generating an estimate for its location. This book is concerned with computationally efficient solutions to the large scale SLAM problems using exactly sparse Extended Information Filters (EIF).

Readership: Researchers, academics, and graduate students in robotics and automated systems.

210pp Jun 2011
 978-981-4350-31-0 US\$85 £55
 978-981-4350-32-7(ebook) US\$111



THIS PERVASIVE DAY

The Potential and Perils of Pervasive Computing

edited by **Jeremy Pitt** (Imperial College London, UK)

This book explores the potentials - and perils and pitfalls - of the new technology of pervasive adaptation. Miniaturisation and Moore's Law have combined to make pervasive computing a reality, while advances in intelligent software make adaptation of those pervasive computing environments possible.

This opens up a wide range of interesting and beneficial applications in health, commerce and entertainment; it also offers the possibility of every behaviour, preference and even emotion being sensed and recorded digitally, and then, possibly, being used in a way that is less desirable: for surveillance, invasions of privacy, reduction or removal of rights.

This Pervasive Day: The Potential and Perils of Pervasive Computing will investigate the science and technology of pervasive adaptation from a human-centred perspective, and consider social, ethical and legal issues. It will offer an overall view of innovative technologies from a techno-political standpoint, with recommendations where research should (or not) go into, as well as bringing up specific controversial issues, on which some of the contributors might not be in full agreement.

Readership: Graduates and researchers in computer science, and the general public.

300pp Sep 2011
 978-1-84816-748-3 US\$95 £62
 978-1-84816-749-0(ebook) US\$124

CLUSTER COMPUTING FOR ROBOTICS AND COMPUTER VISION

by **Damian M Lyons** (Fordham University, USA)

In this book, we look at how cluster technology can be leveraged to build better robots. Algorithms and approaches in key areas of robotics and computer vision, such as map building, path planning, target tracking, action selection and learning, are reviewed and cluster implementations for these are presented.

The objective of the book is to give professionals working in the beowulf cluster or robotics and computer vision fields a concrete view of the strong synergy between the areas as well as to spur further fruitful exploitation of this connection. The book is written at a level appropriate for an advanced undergraduate or graduate student. The key concepts in robotics, computer vision and cluster computing are introduced before being used to make the text useful to a wide audience in these fields.

Readership: Academics and professionals in robotics & automated systems, machine perception/computer vision, supercomputing, artificial intelligence and neural networks.

200pp Sep 2011
 978-981-283-635-9 US\$61 £42
 978-981-283-636-6(ebook) US\$79

HIGHLIGHTS

World Scientific Series on Nonlinear Science, Series A - Vol. 74

Pg 2

PHYSARUM MACHINES: Computers from Slime Mould
 by **Andrew Adamatzky**
 (University of the West of England, UK)

Series in Computer Vision - Vol. 1

Pg 2

EMERGING TOPICS IN COMPUTER VISION AND ITS APPLICATIONS

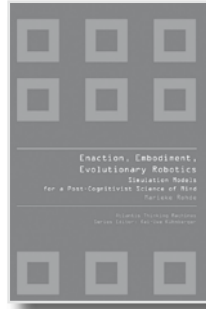
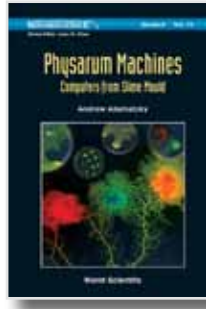
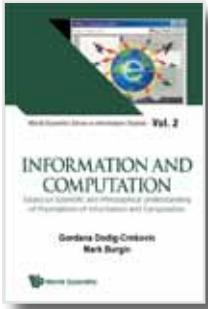
edited by **C H Chen** (University of Massachusetts Dartmouth, USA)

New Frontiers in Robotics - Vol. 2

Pg 4

DYNAMICS AND ROBUST CONTROL OF ROBOT-ENVIRONMENT INTERACTION

by **Miomir Vukobratovic** ("Mihajlo Pupin" Institute, Belgrade, Serbia), **Dragoljub Surdilovic** (Fraunhofer Institute for Production Systems & Design Technology IPK, Berlin, Germany), **Yury Ekalo** (St Petersburg Electrotechnical University, Russia), & **Dusko Katic** ("Mihajlo Pupin" Institute, Belgrade, Serbia)



World Scientific Series in Information Studies - Vol. 2
INFORMATION AND COMPUTATION: Essays on Scientific and Philosophical Understanding of Foundations of Information and Computation

edited by **Gordana Dodig-Crnkovic** (*Mälardalen University, Sweden*) & **Mark Burgin** (*University of California, Los Angeles, USA*)

This book provides a cutting-edge view of world's leading authorities in fields where information and computation play a central role. It sketches the contours of the future landscape for the development of our understanding of information and computation, their mutual relationship and the role in cognition, informatics, biology, artificial intelligence, and information technology.

Readership: Students and professionals in information and computation.

520pp **Apr 2011**
978-981-4295-47-5 **US\$157** **£97**
978-981-4295-48-2(ebook) **US\$204**

World Scientific Series on Nonlinear Science, Series A - Vol. 74
PHYSARUM MACHINES: Computers from Slime Mould
 by **Andrew Adamatzky** (*University of the West of England, UK*)

This book demonstrates how to create experimental Physarum machines for computational geometry and optimization, distributed manipulation and transportation, and general-purpose computation. An account on Physarum Machines can be viewed at <http://www.youtube.com/user/PhysarumMachines>.

Readership: Students, researchers and engineers interested in developing non-traditional wetware systems at the cutting edge of artificial life, unconventional computing and robotics.

280pp **Aug 2010**
978-981-4327-58-9 **US\$98** **£61**
978-981-4327-59-6(ebook) **US\$127**

Atlantis Thinking Machines - Vol. 1
ENACTION, EMBODIMENT, EVOLUTIONARY ROBOTICS: Simulation Models for a Post-Cognitivist Science of Mind
 by **Marieke Rohde** (*Max Planck Institute for Biological Cybernetics, Tübingen, Germany*)

The book proposes how a particular kind of simulation model, i.e. Evolutionary Robotics simulations, can help to solve several problems in Cognitive Science.

Readership: This book addresses primarily cognitive scientists at all academic levels. Because of its interdisciplinary character the book will also be interesting for academics in the field of artificial intelligence, cybernetics and psychology.

264pp **Mar 2010**
978-90-78677-23-9 **US\$99** **£65**

ADAPTIVE CONTROL OF ROBOT MANIPULATORS: A Unified Regressor-Free Approach

by **An-Chyau Huang** (*National Taiwan University of Science and Technology, Taiwan*) & **Ming-Chih Chien** (*National Taiwan University of Science and Technology, Taiwan*)

This book introduces an unified function approximation approach to the control of uncertain robot manipulators containing general uncertainties. It works for free space tracking control as well as compliant motion control.

Readership: Researchers, practitioners, and graduate students in the field of robot control.

276pp **Apr 2010**
978-981-4307-41-3 **US\$99** **£68**
978-981-4307-42-0(ebook) **US\$129**

Series in Computer Vision - Vol. 1
EMERGING TOPICS IN COMPUTER VISION AND ITS APPLICATIONS

edited by **C H Chen** (*University of Massachusetts Dartmouth, USA*)

This book gives a comprehensive overview of the most advanced theories, methodologies and applications in computer vision. Particularly, it gives an extensive coverage of 3D and robotic vision problems.

Readership: Researchers, professionals and academics in pattern recognition and image analysis, robotics & automation, software engineering, numerical and computational mathematics, and computer engineering.

520pp **Dec 2011**
978-981-4340-99-1 **US\$148** **£96**
978-981-4343-00-8(ebook) **US\$192**

:: Bestseller

ROBOTICS: STATE OF THE ART AND FUTURE CHALLENGES

by **George Bekey** (*University of Southern California, USA*), **Robert Ambrose** (*NASA Johnson Space Center, USA*), **Vijay Kumar** (*University of Pennsylvania, USA*), **David Lavery** (*NASA Headquarters, USA*), **Arthur Sanderson** (*Rensselaer Polytechnic Institute, USA*), **Brian Wilcox** (*NASA Jet Propulsion Laboratory, USA*), **Junku Yuh** (*Korea Aerospace University, Korea*), & **Yuan Zheng** (*Ohio State University, USA*)

This book presents the results of an assessment of the state of robotics in Japan, South Korea, Western Europe and Australia and a comparison of robotics R&D programs in these countries with those in the United States. This important study identifies a number of areas where the traditional lead of the United States is being overtaken by developments in other countries.

Readership: Researchers and graduate students in robotics and automated systems, electrical and mechanical engineering, international economics, artificial intelligence and machine perception.

152pp **Jul 2008**
978-1-84816-006-4 **US\$73** **£51**
978-1-84816-007-1(ebook) **US\$95**

ARTIFICIAL BRAINS: An Evolved Neural Net Module**Approach**by **Hugo de Garis** (*Xiamen University, China*)

This book explains how the author is building China's first artificial brain, using an evolved neural net module approach. These modules are evolved in special hardware very fast, each with its own little job. They are downloaded one by one into the memory of a supercomputer, and connected up according to the designs of human "BAs" (Brain Architects) to build artificial brains, which then control the hundreds of robots behaviors. These artificial brains contain thousands of pattern recognition circuits. This approach is expected to produce artificial brains with several 10,000s of evolved neural net modules. The robots will also be given language abilities for conversing with humans.

Readership: Undergraduate and graduate students in the field of artificial brain, artificial intelligence and robotics.

400pp	Sep 2011	
978-981-4304-27-6	US\$95	£65
978-981-4304-29-0(ebook)	US\$124	

INTELLIGENT VEHICLE: Perception, Decision and Actionby **Ming Xie** (*Nanyang Technological University, Singapore*), **Hui Chen** (*Tongji University, China*), & **Zhencheng Hu** (*Kumamoto University, Japan*)

This book provides a broad introduction to the three key modules behind the design and development of intelligent vehicles for the ultimate purpose of actively ensuring driving safety as well as preventing accidents from all possible causes. Self-contained and unified in presentation, the book explains in detail the fundamental solutions of vehicle perception, vehicle decision-making and vehicle action-taking in a pedagogic order.

Readership: Advanced undergraduate and graduate students in automotive engineering, mechanical engineering and computer science; researchers and practitioners in automotive industries.

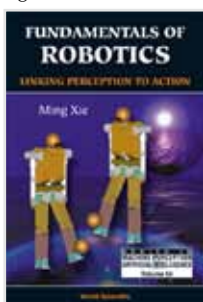
300pp	Sep 2012	
978-981-4271-63-9	US\$88	£61
978-981-4271-64-6(ebook)	US\$114	

:: Bestseller

Series in Machine Perception and Artificial Intelligence - Vol. 54

**FUNDAMENTALS OF ROBOTICS:
Linking Perception to Action**by **Ming Xie** (*Singapore-MIT Alliance & Nanyang Technological University, Singapore*)

This book will guide you, the curious beginner, from yesterday to tomorrow. The book will cover practical knowledge in understanding, developing, and using robots as versatile

**GEOMETRIC MECHANICS: Part I: Dynamics and Symmetry (2nd Edition)**by **Darryl D Holm** (*Imperial College London, UK*)

This textbook introduces the tools and language of modern geometric mechanics to advanced undergraduates and beginning graduate students in mathematics, physics, and engineering. It treats the dynamics of ray optics, resonant oscillators and the elastic spherical pendulum from a unified geometric viewpoint, by formulating their solutions using reduction by Lie-group symmetries. The only prerequisites are linear algebra, calculus and some familiarity with Euler–Lagrange variational principles and canonical Poisson brackets in classical mechanics at the beginning undergraduate level.

Readership: Advanced undergraduate and graduate students in mathematics, physics and engineering; non-experts interested in geometric mechanics, dynamics and symmetry.

400pp	Jul 2011	
978-1-84816-774-2	US\$98	£64
978-1-84816-775-9(pbk)	US\$48	£31

GEOMETRIC MECHANICS: Part II: Rotating, Translating and Rolling (2nd Edition)by **Darryl D Holm** (*Imperial College London, UK*)

This textbook introduces the tools and language of modern geometric mechanics to advanced undergraduate and beginning graduate students in mathematics, physics, and engineering. It treats the dynamics of rotating, spinning and rolling rigid bodies from a geometric viewpoint, by formulating their solutions as coadjoint motions generated by Lie groups. The only prerequisites are linear algebra, multivariable calculus and some familiarity with Euler–Lagrange variational principles and canonical Poisson brackets in classical mechanics at the beginning undergraduate level.

Readership: Advanced undergraduate and graduate students in mathematics, physics and engineering; researchers interested in learning the basic ideas in the fields; non-experts interested in geometric mechanics, dynamics and symmetry.

400pp	Nov 2011	
978-1-84816-777-3	US\$98	£64
978-1-84816-778-0(pbk)	US\$48	£31

equipment to automate a variety of industrial processes or tasks. But, the book will also discuss the possibilities we can look forward to when we are capable of creating a vision-guided, learning machine.

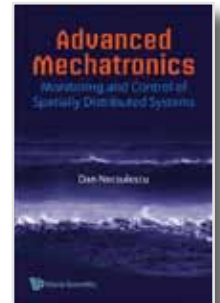
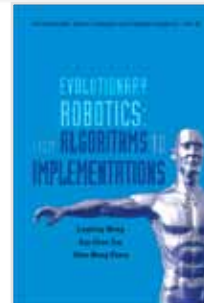
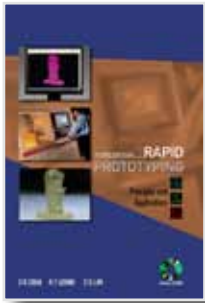
Readership: Upper-level undergraduates, graduates and researchers in robotics & automated systems, artificial intelligence, machine perception and computer vision.

716pp	Apr 2003	
978-981-238-313-6	US\$167	£115
978-981-238-335-8(pbk)	US\$82	£57


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<http://twitter.com/ImperialCPress>

Bestselling Titles



RAPID PROTOTYPING: Principles and Applications Third Edition (with Companion CD-ROM)

by **C K Chua** (Nanyang Technological University, Singapore), **K F Leong** (Nanyang Technological University, Singapore), & **C S Lim** (Nanyang Technological University, Singapore)

"To date, this is the only published text on RP that can be recommended to undergraduate students. Whenever I start my students off on a project that involves RP, and they say 'what is RP?', this is the book I give them to read. This book is an excellent introduction to RP." **Dr Ian Gibson, Co-Editor of Rapid Prototyping Journal, MCB Press, UK**

Readership: Diploma and advanced diploma students, undergraduates, postgraduates, consultants, academics and professionals in mechanical and industrial engineering.

540pp	Jan 2010	
978-981-277-897-0	US\$96	£63
978-981-277-898-7(pbk)	US\$69	£46

SAFETY AND RELIABILITY IN COOPERATING UNMANNED AERIAL SYSTEMS

by **Camille Alain Rabbath** (Defence R&D Canada-Valcartier) & **Nicolas Léchevin** (Defence R&D Canada-Valcartier)

This monograph complements the proposed CHM concepts by means of case studies and application examples. It presents fundamental principles and results encompassing optimization, systems theory, information theory, dynamics, modeling and simulation.

Readership: Academics in engineering and science; aerospace and defense industry professionals; government officials in the defense and aerospace departments.

236pp	Jan 2010	
978-981-283-699-1	US\$85	£58
978-981-283-700-4(ebook)	US\$111	

New Frontiers in Robotics - Vol. 2

DYNAMICS AND ROBUST CONTROL OF ROBOT-ENVIRONMENT INTERACTION

by **Miomir Vukobratovic** ("Mihajlo Pupin" Institute, Belgrade, Serbia), **Dragoljub Surdilovic** (Fraunhofer Institute for Production Systems & Design Technology IPK, Berlin, Germany), **Yury Ekalo** (St Petersburg Electrotechnical University, Russia), & **Dusko Katic** ("Mihajlo Pupin" Institute, Belgrade, Serbia)

This book covers the most attractive problem in robot control, dealing with the direct interaction between a robot and a dynamic environment, including the human-robot physical interaction. It provides comprehensive theoretical and experimental coverage of interaction control problems, starting from the mathematical modeling of robots interacting with complex dynamic environments, and proceeding to various concepts for interaction control design and implementation algorithms at different control layers.

Readership: Researchers, academics and graduate students in robotics and automated systems, dynamical systems, artificial intelligence and fuzzy logic.

660pp	Mar 2009	
978-981-283-475-1	US\$200	£138
978-981-283-476-8(ebook)	US\$260	

World Scientific Series in Robotics and Intelligent Systems - Vol. 28

EVOLUTIONARY ROBOTICS: FROM ALGORITHMS TO IMPLEMENTATIONS

by **Lingfeng Wang** (Texas A&M University, USA), **Kay Chen Tan** (National University of Singapore, Singapore), & **Chee Meng Chew** (National University of Singapore, Singapore)

This invaluable book comprehensively describes evolutionary robotics and computational intelligence, and how different computational intelligence techniques are applied to robotic system design. It embraces the most widely used evolutionary approaches with their merits and drawbacks, presents some related experiments for robotic behavior evolution and the results achieved, and shows promising future research directions. Clarity of explanation is emphasized such that a modest knowledge of basic evolutionary computation, digital circuits and engineering design will suffice for a thorough understanding of the material.

Readership: Researchers in evolutionary robotics, and graduate and advanced undergraduate students in computational intelligence.

268pp	Jul 2006	
978-981-256-870-0	US\$113	£78
978-981-277-314-2(ebook)	US\$147	

ADVANCED MECHATRONICS: Monitoring and Control of Spatially Distributed Systems

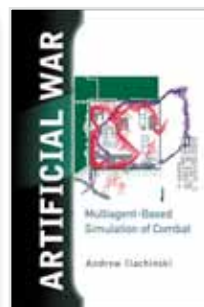
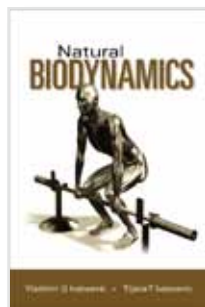
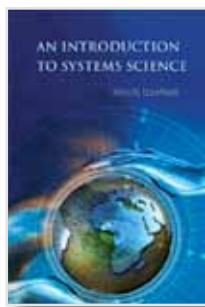
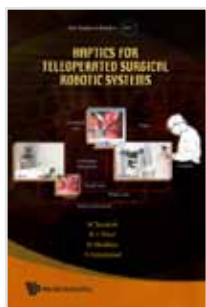
by **Dan Neculescu** (University of Ottawa, Canada)

The book starts with an overview of the main results in the inverse problem theory and continues with the presentation of basic results in discrete inverse theory. The second part presents various forward and inverse problems resulting from modeling, monitoring and controlling mechanical, acoustic, fluid and thermal systems. Finally, indirect and remote monitoring and control issues are analyzed as cases of ill-posed inverse problems. Numerous numerical examples illustrate current approaches used for solving practical inverse problems.

Readership: Practicing engineers and scientists involved in monitoring and control of distributed parameters systems, and senior under graduates and graduates in engineering and science.

344pp	Nov 2008	
978-981-277-181-0	US\$104	£72
978-981-277-182-7(ebook)	US\$135	

Bestselling Titles



New Frontiers in Robotics - Vol. 1

HAPTICS FOR TELEOPERATED SURGICAL ROBOTIC SYSTEMS

by **M Tavakoli** (Harvard University, USA), **RV Patel** (University of Western Ontario, Canada), **M Moallem** (Simon Fraser University, Canada), & **A Aziminejad** (University of Western Ontario, Canada)

This monograph is concerned with devices and methods required for incorporating haptic feedback in master-slave robotic MIS systems. Using the master-slave system, various haptic teleoperation control schemes are compared in terms of stability and performance, and passivity-based time delay compensation for haptic teleoperation over a long distance is investigated. It also compares haptic feedback with visual feedback and with substitution for haptic feedback by other sensory cues in terms of surgical task performance.

Readership: Researchers in robotics, teleoperation, haptics, virtual reality, sensor technology, human machine interaction, and minimally invasive surgery and therapy.

180pp **Apr 2008**
978-981-281-315-2 **US\$73** **£51**
978-981-281-316-9(ebook) **US\$95**

AN INTRODUCTION TO SYSTEMS SCIENCE

by **John N Warfield** (Professor Emeritus, George Mason University, USA)

This is the first book that renders a thorough discussion of systems science. It draws on material from an extensive collection of external sources, including several other books and a special library collection complete with videotape empirical evidence of applicability of the theory to a wide variety of circumstances.

Readership: Graduate students, academics and practitioners in business management, computer science and engineering.

432pp **Apr 2006**
978-981-256-702-4 **US\$113** **£78**
978-981-277-404-0(ebook) **US\$147**

Amast Series in Computing - Vol. 8

REAL-TIME SYSTEMS: Modeling, Design, and Applications

edited by **Dan Ionescu** (University of Ottawa, Canada) & **Aurel Cornell** (Brigham Young University, USA)

Starting with a general approach in the area of formalization of real-time systems, and setting the foundations for a general systemic theory of those systems, the book covers everything from building modeling frameworks for various types of real-time systems, to verification, and synthesis. Other parts of the book deal with subjects related to tools and applications of these systems.

Readership: Graduate students, researchers and practitioners of real-time systems.

504pp **Mar 2007**
978-981-02-4424-8 **US\$202** **£139**
978-981-270-847-2(ebook) **US\$263**

NATURAL BIODYNAMICS

by **Vladimir G Ivancevic** (Defence Science & Technology Organisation, Australia) & **Tijana T Ivancevic** (University of Adelaide, Australia)

The book develops and uses a variety of research methods, ranging from chaos theory and Haken's synergetics, through quantum mechanics, to nonlinear control and artificial intelligence, to provide the means to understand, predict and control the behavior of human-like systems in their full neuro-musculo-skeletal complexity.

Readership: Robotics, biomedical and biomechanical engineers, applied and biological mathematicians, physicists, mechanical and control engineers.

1036pp **Nov 2005**
978-981-256-534-1 **US\$285** **£197**
978-981-270-316-3(ebook) **US\$371**

World Scientific Series on Nonlinear Science, Series A - Vol. 48

BIO-INSPIRED EMERGENT CONTROL OF LOCOMOTION SYSTEMS

by **Mattia Frasca** (Università degli Studi di Catania, Italy), **Paolo Arena** (Università degli Studi di Catania, Italy), & **Luigi Fortuna** (Università degli Studi di Catania, Italy)

This book deals with locomotion control of biologically inspired robots realized through an analog circuitual paradigm as cellular nonlinear networks. It presents a general methodology for the control of bio-inspired robots and several case studies, as well as describes a new approach to motion control and the related circuit architecture.

Readership: Graduate students and researchers involved with robotics and automated systems.

212pp **Jun 2004**
978-981-238-919-0 **US\$96** **£66**
978-981-256-230-2(ebook) **US\$125**

ARTIFICIAL WAR: Multiagent-Based Simulation of Combat

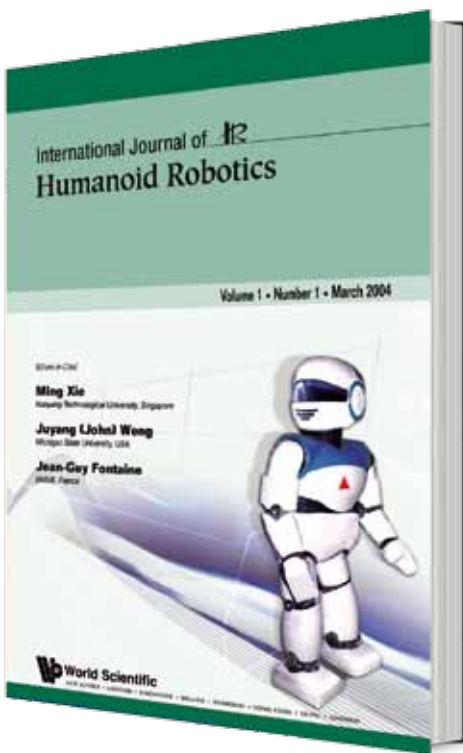
by **Andrew Ilachinski** (Center for Naval Analyses, USA)

"This is the first example of a book designed for a wide audience dealing exclusively and in detail with their application to warfare ... it is easy to imagine researchers from other disciplines or even application-minded sectors such as computer game designers getting a good deal of value from it ... this book has much worthy of recommendation and it is certainly unique at the present time." *International Journal of Computational Intelligence and Applications*

Readership: Undergraduates, graduate students, academics and researchers in computer science; political and physical scientists; computer game developers; military historians.

784pp **Jun 2004**
978-981-238-834-6 **US\$172** **£118**
978-981-256-240-1(ebook) **US\$224**

International Journal of Humanoid Robotics



Editors-in-Chief



Ming Xie

Nanyang Technological University (NTU), Singapore

Dr. Xie is an Associate Professor of the School of Mechanical & Aerospace Engineering, a Deputy Director of the Wireless and Positioning Technology Center, at NTU. His two primary research interests are humanoid robotics and intelligent vehicle.



Juyang Weng

Michigan State University (MSU), East Lansing, Michigan, USA

Dr. Weng is a professor of the Department of Computer Science and Engineering, the Cognitive Science Program and the Neuroscience Program at MSU. His research interests span areas related to intelligent robotics, including mental architectures, perception, cognition, behaviors, motivation, and abstract reasoning.



Jean Guy Fontaine

Italian Institute of Technology (I.I.T.) Genoa Head Quarter, ITALY

Dr. Hab. Fontaine is professor and director of the TERA (TeleRobotics and Applications) Department at I.I.T. His research interest combines humanoid robotics, human capabilities and telecommunication to foster advance studies such as Telepresence, Telexistence, ubiquitous robotics and coexistence concepts.

<http://www.worldscinet.com/ijhr>

 **Impact Factor has improved from 0.542 in 2008 to 1.230 in 2009**

About IJHR: Aims & Scope

The International Journal of Humanoid Robotics (IJHR) covers all subjects on the mind and body of humanoid robots. It is dedicated to advancing new theories, new techniques, and new implementations contributing to the successful achievement of future robots which not only imitate human beings, but also serve human beings. While IJHR encourages the contribution of original papers which are solidly grounded on proven theories or experimental procedures, the journal also encourages the contribution of innovative papers which venture into the new, frontier areas in robotics. Such papers need not necessarily demonstrate, in the early stages of research and development, the full potential of new findings on a physical or virtual robot.

Abstracting/Indexing

Compendex
io-port.net
Science Citation Index Expanded (also known as SciSearch®)
Current Contents®/Engineering, Computing, and Technology
ISI Alerting Services

Recent Issue: Volume: 7, Issue: 4 (December 2010)

Human-Like Gait Generation For Biped Andriod Robot Using Motion Capture and ZMP Measurement System

Jung-Yup Kim and Young Seog Kim
DOI No: 10.1142/S0219843610002155
Page: 511-534

Stability Analysis and Robust Control of a Planar Underactuated Biped Robot

Reza Dehghani and Abbas Fattah
DOI No: 10.1142/S0219843610002258
Page: 535-563

On the Redefinition of Fan Out Metric For Human Robot Interactions With Humanoid Soccer Robots

Mohan Rajesh Elara, Carlos Antonio Acosta Calderon, Changjiu Zhou and Wijerupage Sardha Wijesoma
DOI No: 10.1142/S0219843610002143
Page: 565-586

Humanoid Low-level Controller Development Based On A Realistic Simulation

Jose L. Lima, Jose C. Goncalves, Paulo G. Costa, A. Paulo Moreira
DOI No: 10.1142/S0219843610002131
Page: 587-607

Underactuated Hand Dynamic Modeling, Its Real-Time Simulation and Control

Hai Huang, Yong-Jie Pang, Jiang Li, Shao-Wei Fan, Xin-Qing Wang, and Hong Liu
DOI No: 10.1142/S021984361000226X
Page: 609-634

Planning of Sagittal Gait of Biped Robots Based On Minimum Motion Energy

KUO-YANG TU and MI-SHIN LIU
DOI No: 10.1142/S0219843610002271
Page: 635-667

Visual Detection of Legged Robots and Its Application To Robot Soccer Playing and Refereeing

Javier Ruiz-Del-Solar, Matias Arenas, Rodrigo Versachae and Patricio Loncomilla
DOI No: 10.1142/S0219843610002222
Page: 669-698

Automotive Parts' Loading Optimization Based On Improved Quadratic Particle Swarm Optimization

Jian Liu, Chunyan Wu, Xiangyin Wang, and Dejie Yu
DOI No: 10.1142/S0219843610002283
Page: 699-712

Bestselling Titles

HANDBOOK OF PATTERN RECOGNITION AND COMPUTER VISION (4th Edition)

edited by **C H Chen** (*University of Massachusetts Dartmouth, USA*)

Both pattern recognition and computer vision have experienced rapid progress in the last twenty-five years. This book provides the latest advances on pattern recognition and computer vision along with their many applications. It features articles written by renowned leaders in the field while topics are presented in readable form to a wide range of readers. The book is divided into five parts: basic methods in pattern recognition, basic methods in computer vision and image processing, recognition applications, life science and human identification, and systems and technology.

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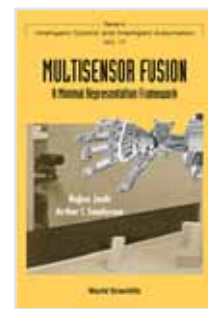
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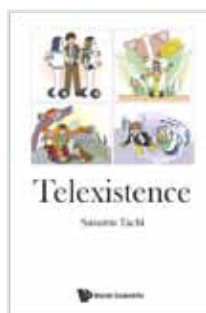
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