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Autonomous Systems: Developments and Trends-Herwig Unger 2011-11-22 The Workshops on Autonomous Systems emanated from a gathering with the doctoral students of just three chairs at Fernuniversität in Hagen, which we organise twice per year for a number of years now. Their purpose is to discuss on-going research and to create a community spirit. Furthermore, they serve as a means of structuring the students' research processes. The workshop has grown and matured in several respects. The doctoral students presenting their work do not come from a single university anymore, but from three. Besides them and their supervisors, also other scientists became interested in the event and contribute to its programme. Following the model of Advanced Study Institutes, they are available on the premises for relaxed, informal discussions outside the formal sessions. Finally, with the co-sponsorship of Gesellschaft für Informatik, the German Computer Society, and this surprisingly comprehensive volume of contributions published by Springer-Verlag the workshop turned into a visible scientific event.

Autonomous Vehicles in Support of Naval Operations-National Research Council 2005-08-05 Autonomous vehicles (AVs) have been used in military operations for more than 60 years, with torpedoes, cruise missiles, satellites, and target drones being early examples.1 They have also been widely used in the civilian sector--for example, in the disposal of explosives, for work and measurement in radioactive environments, by various offshore industries for both creating and maintaining undersea facilities, for atmospheric and undersea research, and by industry in automated and robotic manufacturing. Recent military experiences with AVs have consistently demonstrated their value in a wide range of missions, and anticipated developments of AVs hold promise for increasingly significant roles in future naval operations. Advances in AV capabilities are enabled (and limited) by progress in the technologies of computing and robotics, navigation, communications and networking, power sources and propulsion, and materials. Autonomous Vehicles in Support of Naval Operations is a forward-looking discussion of the naval operational environment and vision for the Navy and Marine Corps and of naval mission needs and potential applications and limitations of AVs. This report considers the potential of AVs for naval operations, operational needs and technology issues, and opportunities for improved operations.

Developing Advanced Web Services through P2P Computing and Autonomous Agents: Trends and Innovations-Ragab, Khaled 2010-06-30 Developing Advanced Web Services through P2P Computing and Autonomous Agents: Trends and Innovations establishes an understanding of autonomous peer-to-peer Web Service models and developments as well as extends growing literature on emerging technologies. This scholarly publication is an important reference for researchers and academics working in the fields of peer-to-peer computing, Web and grid services, and agent technologies.

10th International Symposium on Process Systems Engineering - PSE2009-Rita Maria de Brito Alves 2009-09-14 The 10th International Symposium on Process Systems Engineering, PSE'09, will be held in Salvador-Bahia, Brazil, on August 16–20, 2009. The special focus of PSE 2009 is Sustainability, Energy, and Engineering. PSE 2009 is the tenth in the triennial series of international symposia on process systems engineering initiated in 1982. The meeting brings together the worldwide PSE community of researchers and practitioners who are involved in the creation and application of computing-based methodologies for planning, design, operation, control and maintenance of chemical and petrochemical process industries. PSE'09 will look at how PSE methods and tools can support sustainable resource systems, emerging technologies in the areas of green engineering, and environmentally conscious design of industrial processes. - sustainable resource systems - emerging technologies in the areas of green engineering - environmentally conscious design of industrial processes

Global Trends in Information Systems and Software Applications-P. Venkata Krishna 2012-08-01 This 2-Volume-Set, CCIS 0269-CCIS 0270, constitutes the refereed proceedings of the International Conference on Global Trends in Computing and Communication (CCIS 0269) and the International Conference on Global Trends in Information Systems and Software Applications (CCIS 0270), ObCom 2011, held in Vellore, India, in December 2011. The 173 full papers presented together with a keynote paper and invited papers were carefully reviewed and selected from 842 submissions. The conference addresses issues associated with computing, communication and information. Its aim is to increase exponentially the participants' awareness of the current and future direction in the domains and to create a platform between researchers, leading industry developers and end users to interrelate.

Advances in Intelligent Autonomous Systems-S.G. Tzafestas 1999-03-31 This collection of twenty-three timely contributions covers a well-selected repertory of topics within the autonomous systems field. The book discusses a range of design, construction, control, and operation problems along with a multiplicity of well-established and novel solutions.

Recent Trends in Multimedia Information Processing-Panos Liatsis 2002-10-24 This book reports on the state of the art in multimedia information processing. The emphasis is on the convergence of information processing algorithms and associated technologies. The areas of interest include video/image coding, color vision, 3D reconstruction, field programmable devices, and many others. Contents:Selected Topics in Medical Image Processing (J Cornelis et al.)A Restoration Method for Delay Proportional Differentiated Services (J Tsiligaridis & R Acharya)Massive Marching: A Parallel Computation of Distance Function (E Dejno(ková et al.)A Novel Intrusive Voice Transmission Quality Test System for Mobile Networks (J Holub et al.)FPAD Versus FPGA for Future Mobile Communications (S A Colsell & R Edwards)Nonuniform Sampling of Chrominance and Its Application to Intra-Frame Coding (M Doma(ski et al.)Analytical Design of 2-D FIR Filters for Image Compression (P Zahradnik & M Vlcek)HMM-based Dance Gesture Recognition (F Cheneviere et al.)A Progressive Wavelet Oriented Watershed Technique for Image Segmentation (D K Bechtsis et al.)Spiking Neuron Auditory Model for Speech Processing Systems (A V Ivanov et al.)Focal Region-Based Volume Rendering (J Zhou & K D Toennies)On the Choice of Transform for Low Frequency Image Watermaking (D Taskovski et al.)Online Classification of EEG Signals Using Artificial Neural Networks for Biofeedback Training of Patients with Epilepsy (M Schroder et al.)Data Mining and Telecommunication Fraud Detection Using Artificial Neural Networks (A J Hussain & E Chew)Large Scale Features in Prokaryote and Eukaryote Genomics Signals (P D Cristea)A Basis of Invariant Moments for Color Images (R Bidoggia & S Gentili)Fast Segmentation of Color Images Using the Fuzzy K-Means Algorithm and Different Sampling Approaches (A G Yiannoulis et al.)and other papers Readership: Graduate students, academics and industrialists in image/video coding, multimedia, neural nets and image analysis. Keywords:Image Processing and Analysis;Video Coding;Neural Networks;Bioinformatics;Field Programmable Devices;Fuzzy Logic;Multimedia

Autonomous Systems and Intelligent Agents in Power System Control and Operation-Christian Rehtanz 2003-07-15 Autonomous systems are one of the most important trends for the next generation of control systems. This book is the first to transfer autonomous systems concepts and intelligent agents theory into the control and operation environment of power systems. The focus of this book is to design a future control system architecture for electrical power systems, which copes with the changed requirements concerning complexity and flexibility and includes several applications for power systems. This book draws the whole circle from the theoretical and IT-concept of autonomous systems for power system control over the required knowledge-based methods and their capabilities to concrete applications within this field.

Intelligent Autonomous Systems 12-Sukhan Lee 2012-10-18 Intelligent autonomous systems are emerged as a key enabler for the creation of a new paradigm of services to humankind, as seen by the recent advancement of autonomous cars licensed for driving in our streets, of unmanned aerial and

underwater vehicles carrying out hazardous tasks on-site, and of space robots engaged in scientific as well as operational missions, to list only a few. This book aims at serving the researchers and practitioners in related fields with a timely dissemination of the recent progress on intelligent autonomous systems, based on a collection of papers presented at the 12th International Conference on Intelligent Autonomous Systems, held in Jeju, Korea, June 26-29, 2012. With the theme of "Intelligence and Autonomy for the Service to Humankind, the conference has covered such diverse areas as autonomous ground, aerial, and underwater vehicles, intelligent transportation systems, personal/domestic service robots, professional service robots for surgery/rehabilitation, rescue/security and space applications, and intelligent autonomous systems for manufacturing and healthcare. This volume 2 includes contributions devoted to Service Robotics and Human-Robot Interaction and Autonomous Multi-Agent Systems and Life Engineering.

Concept-Oriented Research and Development in Information Technology-Kinji Mori 2014-01-08 A pioneering, concept-oriented research and development approach improves business results in technology-driven industries With contributions from IT, systems, and operations experts from around the globe, this book sets forth a tested and proven, concept-oriented R&D approach that far surpasses the results of conventional R&D. The authors explain how to create a clear concept, then build upon that concept by developing a chain of technologies and target markets in order to create, sustain, and grow successful business operations. Real-world examples and case studies from IBM and Hitachi illustrate how the concept-oriented approach can be applied to IT and other technology-driven industries anywhere in the world. Concept-Oriented Research and Development in Information Technology sheds new light on the complex relationships between concept, technology and market, explaining how all of these elements are enhanced with a concept-oriented R&D approach. Throughout the book, readers will learn a variety of innovative perspectives and methods for concept creation, technology innovation, and market cultivation. Part I, Introduction, makes the case for a paradigm shift in R&D from a conventional approach to a concept-oriented one. Part II, Concept Creation, liffers four perspectives on the application of the concept-oriented approach. Part III, Fusion of Technologies, illustrates the need to fuse technologies to accommodate rapidly changing and unpredictable demands on business infrastructure. Part IV, Glocalization of Technologies, explains why businesses need to diversify globally, yet remain in tune with local markets. Part V, Conclusions and Future Directions, explores the potential of the concept-oriented approach to evolve with the changing needs of business and R&D. Concept-Oriented Research and Development in Information Technology helps students and professionals in IT, engineering, systems, and operations approach R&D in new ways that lead to better technologies and better businesses.

Autonomous Control Systems and Vehicles-Kenzo Nonami 2013-05-30 The International Conference on Intelligent Unmanned Systems 2011 was organized by the International Society of Intelligent Unmanned Systems and locally by the Center for Bio-Micro Robotics Research at Chiba University, Japan. The event was the 7th conference continuing from previous conferences held in Seoul, Korea (2005, 2006), Bali, Indonesia (2007), Nanjing, China (2008), Jeju, Korea (2009), and Bali, Indonesia (2010). ICIUS 2011 focused on both theory and application, primarily covering the topics of robotics, autonomous vehicles, intelligent unmanned technologies, and biomimetics. We invited seven keynote speakers who dealt with related state-of-the-art technologies including unmanned aerial vehicles (UAVs) and micro air vehicles (MAVs), flapping wings (FWs), unmanned ground vehicles (UGVs), underwater vehicles (UVs), bio-inspired robotics, advanced control, and intelligent systems, among others. This book is a collection of excellent papers that were updated after presentation at ICIUS2011. All papers that form the chapters of this book were reviewed and revised from the perspective of advanced relevant technologies in the field. The aim of this book is to stimulate interactions among researchers active in the areas pertinent to intelligent unmanned systems.

Robotic Systems and Autonomous Platforms-Shawn M. Walsh 2018-10-11 Robotic Systems and Autonomous Platforms: Advances in Materials and Manufacturing showcases new materials and manufacturing methodologies for the enhancement of robotic and autonomous systems. Initial chapters explore how autonomous systems can enable new uses for materials, including innovations on different length scales, from nano, to macro and large systems. The means by which autonomous systems can enable new uses for manufacturing are also addressed, highlighting innovations in 3D additive manufacturing, printing of materials, novel synthesis of multifunctional materials, and robotic cooperation. Concluding themes deliver highly novel applications from the international academic, industrial and government sectors. This book will provide readers with a complete review of the cutting-edge advances in materials and manufacturing methodologies that could enhance the capabilities of robotic and autonomous systems. Presents comprehensive coverage of materials and manufacturing technologies, as well as sections on related technology, such as sensing, communications, autonomy/control and actuation Explores potential applications demonstrated by a selection of case-studies Contains

contributions from leading experts in the field

Robust Intelligence and Trust in Autonomous Systems-Ranjeev Mittu 2016-04-07 This volume explores the intersection of robust intelligence (RI) and trust in autonomous systems across multiple contexts among autonomous hybrid systems, where hybrids are arbitrary combinations of humans, machines and robots. To better understand the relationships between artificial intelligence (AI) and RI in a way that promotes trust between autonomous systems and human users, this book explores the underlying theory, mathematics, computational models, and field applications. It uniquely unifies the fields of RI and trust and frames it in a broader context, namely the effective integration of human-autonomous systems. A description of the current state of the art in RI and trust introduces the research work in this area. With this foundation, the chapters further elaborate on key research areas and gaps that are at the heart of effective human-systems integration, including workload management, human computer interfaces, team integration and performance, advanced analytics, behavior modeling, training, and, lastly, test and evaluation. Written by international leading researchers from across the field of autonomous systems research, Robust Intelligence and Trust in Autonomous Systems dedicates itself to thoroughly examining the challenges and trends of systems that exhibit RI, the fundamental implications of RI in developing trusted relationships with present and future autonomous systems, and the effective human systems integration that must result for trust to be sustained. Contributing authors: David W. Aha, Jenny Burke, Joseph Coyne, M.L. Cummings, Munjal Desai, Michael Drinkwater, Jill L. Drury, Michael W. Floyd, Fei Gao, Vladimir Gontar, Ayanna M. Howard, Mo Jamshidi, W.F. Lawless, Kapil Madathil, Ranjeev Mittu, Arezou Moussavi, Gari Palmer, Paul Robinette, Behzad Sadrfaridpour, Hamed Saeidi, Kristin E. Schaefer, Anne Selwyn, Ciara Sibley, Donald A. Sofge, Erin Solovey, Aaron Steinfeld, Barney Tannahill, Gavin Taylor, Alan R. Wagner, Yue Wang, Holly A. Yanco, Dan Zwillinger.

Autonomous Systems and Intelligent Agents in Power System Control and Operation-Christian Rehtanz 2003-07-15 Autonomous systems are one of the most important trends for the next generation of control systems. This book is the first to transfer autonomous systems concepts and intelligent agents theory into the control and operation environment of power systems. The focus of this book is to design a future control system architecture for electrical power systems, which copes with the changed requirements concerning complexity and flexibility and includes several applications for power systems. This book draws the whole circle from the theoretical and IT-concept of autonomous systems for power system control over the required knowledge-based methods and their capabilities to concrete applications within this field.

Social and Human Elements of Information Security: Emerging Trends and Countermeasures-Gupta, Manish 2008-09-30 Provides research on the social and human aspects of information security. Presents the latest trends, issues, and findings in the field.

Autonomous Robots-George A. Bekey 2005 An introduction to the science and practice of autonomous robots that reviews over 300 current systems and examines the underlying technology.

Human Performance in Automated and Autonomous Systems-Mustapha Mouloua 2019-10-08 This book is devoted to the examination of emerging practical issues related to automated and autonomous systems. The book highlights the significance of these emergent technologies that determine the course of our daily lives. Each unique chapter highlights human factors and engineering concerns across real-world applications, including matters related to aviation and healthcare, human-robot interaction, transportation systems, cybersecurity and cyber defense. This book also depicts the boundaries that separate humans from machine as we continue to become ever more immersed in and symbiotic with these fast-emerging technologies. Automation, across many occupations, has transitioned the human to a role of monitoring machines, presenting challenges related to vigilance and workload. This book identifies the importance of an approach to automated technology that emphasizes the "human user" at the center of the design process. Features Provides perspectives on the role of the individual and teams in complex technical systems such as aviation, healthcare, and medicine Presents the development of highly autonomous systems related to human safety and performance Examines solutions to human factors challenges presented by modern threats to data privacy and cybersecurity Discusses human perceptual and cognitive capabilities underwriting to the design of automated and autonomous systems • Provides in-depth, expert reviews of context-related developments in automation and human-robot teaming Human Performance in Automated and Autonomous Systems: Emerging Issues and Practical Perspectives applies scientific theory directly to real-world systems where automation and autonomous technology is implemented.

Sustainable Cities Development and Environment Protection-Nu Wen Xu 2013-08-08 Collection of selected, peer reviewed papers from the 2013 International Conference on Civil, Architecture and Building Materials, (3rd CEABM2013), May 24-26, 2013, Jinan, China. The 475 papers are grouped as follows: Chapter 1: Sustainable City and Regional Development; Chapter 2: Renewable Energy and Building Energy Saving Technology; Chapter 3:

Indoor Environment; Chapter 4: City Ecological Environment; Chapter 5: Water Purification and Wastewater Treatment; Chapter 6: Air Environment Control and Architectural Environment Improvement Techniques; Chapter 7: Environmental Engineering and Environmental Protection; Chapter 8: Bridge Engineering; Chapter 9: Road and Railway Engineering; Chapter 10: Transportation Planning, Construction and Logistics Engineering; Chapter 11: Traffic Control and Information Technology.

Contemporary Planetary Robotics-Yang Gao 2016-06-03 For readers from both academia and industry wishing to pursue their studies and /or careers in planetary robotics, this book represents a one-stop tour of the history, evolution, key systems, and technologies of this emerging field. The book provides a comprehensive introduction to the key techniques and technologies that help to achieve autonomous space systems for cost-effective, high performing planetary robotic missions. Main topics covered include robotic vision, surface navigation, manipulation, mission operations and autonomy, being explained in both theoretical principles and practical use cases. The book recognizes the importance of system design hence discusses practices and tools that help take mission concepts to baseline design solutions, making it a practical piece of scientific reference suited to a variety of practitioners in planetary robotics.

Trends & Applications, 1983- 1983

Autonomous Intelligent Systems: Agents and Data Mining-Vladimir Gorodetsky 2005-05-30 This book constitutes the refereed proceedings of the International Workshop on Autonomous Intelligent Systems: Agents and Data Mining, AIS-ADM 2005, held in St. Petersburg, Russia in June 2005. The 17 revised full papers presented together with 5 invited papers and the abstract of an invited talk were carefully reviewed and selected from 29 submissions. The papers are organized in topical sections on agent-based data mining issues, ontologies and Web mining, and applications and case studies.

International Journal of Vehicle Autonomous Systems- 2002

Redes de comunicaciones industriales-Nuria OLIVA ALONSO 2013-03-01 Este libro es el resultado de la colaboración de un grupo de profesores de cinco universidades públicas españolas. Constituye un texto fundamental que proporciona a los estudiantes e interesados en las comunicaciones industriales suficientes herramientas, habilidades y competencias básicas para poder desenvolverse en estos entornos con garantías

Trends in Practical Applications of Agents and Multiagent Systems-Pawel Pawlewski 2010-04-16 PAAMS, the International Conference on Practical Applications of Agents and Multi-Agent Systems is an international yearly forum to present, to discuss, and to disseminate the latest developments and the most important outcomes related to real-world applications. It provides a unique opportunity to bring multi-disciplinary experts, academics and practitioners together to exchange their ex-perience in the development of Agents and Multi-Agent Systems. This volume presents the papers that have been accepted for the 2010 edition in the Special Sessions and Workshops. PAAMS'10 Special Sessions and Workshops are a very useful tool in order to complement the regular program with new or emerging topics of particular interest to the participating community. Special Sessions and Workshops that emphasize on multi-disciplinary and transversal aspects, as well as cutting-edge topics were especially encouraged and welcomed.

Intelligent Autonomous Systems, 2-Takeo Kanade 1990

The Future of Software Quality Assurance-Stephan Goericke 2019-11-19 This open access book, published to mark the 15th anniversary of the International Software Quality Institute (iSQI), is intended to raise the profile of software testers and their profession. It gathers contributions by respected software testing experts in order to highlight the state of the art as well as future challenges and trends. In addition, it covers current and emerging technologies like test automation, DevOps, and artificial intelligence methodologies used for software testing, before taking a look into the future. The contributing authors answer questions like: "How is the profession of tester currently changing? What should testers be prepared for in the years to come, and what skills will the next generation need? What opportunities are available for further training today? What will testing look like in an agile world that is user-centered and fast-paced? What tasks will remain for testers once the most important processes are automated?" iSQI has been focused on the education and certification of software testers for fifteen years now, and in the process has contributed to improving the quality of software in many areas. The papers gathered here clearly reflect the numerous ways in which software quality assurance can play a critical role in various areas. Accordingly, the book will be of interest to both professional software testers and managers working in software testing or software quality assurance.

Human Systems Engineering and Design II-Tareq Ahram 2019-08-13 This book focuses on novel design and systems engineering approaches, including theories and best practices, for promoting a better integration of people and engineering systems. It covers a range of hot topics related to: development of human-centered systems; interface design and human-computer interaction; usability and user experience; emergent properties of human behavior; innovative materials in manufacturing, biomechanics, and sports medicine, safety engineering and systems complexity business

analytics, design and technology and many more. The book, which gathers selected papers presented at the 2nd International Conference on Human Systems Engineering and Design: Future Trends and Applications (IHSED 2019), held on September 16-18, 2019, at Universität der Bundeswehr München, Munich, Germany, provides researchers, practitioners and program managers with a snapshot of the state-of-the-art and current challenges in the field of human systems engineering and design.

Proceedings of the Fourth Workshop on Future Trends of Distributed Computing Systems, September 22-24, 1993, Lisbon, Portugal-IEEE Computer Society. TC on Distributed Processing 1993

New Technologies, Development and Application II-Isak Karabegović 2019-04-23 This book features papers focusing on the implementation of new and future technologies, which were presented at the International Conference on New Technologies, Development and Application, held at the Academy of Science and Arts of Bosnia and Herzegovina in Sarajevo on 27th–29th June 2019. It covers a wide range of future technologies and technical disciplines, including complex systems such as Industry 4.0; robotics; mechatronics systems; automation; manufacturing; cyber-physical and autonomous systems; sensors; networks; control, energy, automotive and biological systems; vehicular networking and connected vehicles; effectiveness and logistics systems, smart grids, as well as nonlinear, power, social and economic systems. We are currently experiencing the Fourth Industrial Revolution "Industry 4.0", and its implementation will improve many aspects of human life in all segments, and lead to changes in business paradigms and production models. Further, new business methods are emerging, transforming production systems, transport, delivery, and consumption, which need to be monitored and implemented by every company involved in the global market.

ISADS 93, International Symposium on Autonomous Decentralized Systems, March 30-April 1, 1993, Kawasaki, Japan- 1993 Fifty-five papers from the conference held in Kawasaki, Japan, March-April 1993, discuss such topics as system architecture, object-oriented design, transportation systems, real-time systems, flexible manufacturing, computer-supported cooperative work. No index. Annotation copyright Book News, Inc.

Future aerospace technology in the service of the alliance-North Atlantic Treaty Organization. Advisory Group for Aerospace Research and Development 1997

Intelligent Autonomous Systems 7-Maria Gini 2002 The goal of the Seventh International Conference on Intelligent Autonomous Systems (IAS-7) was to exchange and stimulate research ideas that make future robots and systems more intelligent and autonomous. This volume of proceedings contains 71 technical papers by authors from 15 countries.

Political Systems, Development Trends-Sovetskai︠a︡ assot︠s︡iat︠s︡ii︠a︡ politicheskikh nauk 1979

European Symposium on Computer Aided Process Engineering - 11-R. Gani 2001-04-30 This book contains papers presented at the 11th Symposium of Computer Aided Process Engineering (ESCAPE-11), held in Kolding, Denmark, from May 27-30, 2001. The objective of ESCAPE-11 is to highlight the use of computers and information technology tools, that is, the traditional CAPE topics as well as the new CAPE topics of current and future interests. The main theme for ESCAPE-11 is process and tools integration with emphasis on hybrid processing, cleaner and efficient technologies (process integration), computer aided systems for modelling, design, synthesis, control (tools integration) and industrial case studies (application of integrated strategies). The papers are arranged in terms of the following themes: computer aided control/operations, computer aided manufacturing, process and tools integration, and new frontiers in CAPE. A total of 188 papers, consisting of 5 keynote and 183 contributed papers are included in this book.

The End of Driving-Bern Grush 2018-06-25 While many transportation and city planners, researchers, students, practitioners, and political leaders are familiar with the technical nature and promise of vehicle automation, consensus is not yet often seen on the impact that will result, or the policies and actions that those responsible for transportation systems should take. The End of Driving: Transportation Systems and Public Policy Planning for Autonomous Vehicles explores both the potential of vehicle automation technology and the barriers it faces when considering coherent urban deployment. The book evaluates the case for deliberate development of automated public transportation and mobility-as-a-service as paths towards sustainable mobility, describing critical approaches to the planning and management of vehicle automation technology. It serves as a reference for understanding the full life cycle of the multi-year transportation systems planning processes, including novel regulation, planning, and acquisition tools for regional transportation. Application-oriented, research-based, and solution-oriented rather than predict-and-warn, The End of Driving concludes with a detailed discussion of the systems design needed for accomplishing this shift. From the Foreword by Susan Shaheen: The authors ... extend potential solutions through a set of open-ended exercises after each chapter. Their approach is both strategic and deliberate. They lead the reader from definitions and context setting to the transition toward automation, employing a range of creative strategies and policies. While our quest to understand how to deploy automated vehicles is just beginning,

this book provides a thoughtful introduction to inform this evolution. Offers a workable public transit solution design melding the traditional "acquire-and-operate mode with the absorption of new technology Provides a step-by-step discussion of digital systems designs and effective regulation-by-data approaches needed for a new urban mobility Learning aids include case study scenarios, chapter objectives and discussion questions, sidebars and a glossary

AI Trends- 1988-10

Governing Lethal Behavior in Autonomous Robots-Ronald Arkin 2009-05-27 Expounding on the results of the author's work with the US Army Research Office, DARPA, the Office of Naval Research, and various defense industry contractors, Governing Lethal Behavior in Autonomous Robots explores how to produce an "artificial conscience" in a new class of robots, humane-oids, which are robots that can potentially perform more ethically than humans in the battlefield. The author examines the philosophical basis, motivation, theory, and design recommendations for the implementation of an ethical control and reasoning system in autonomous robot systems, taking into account the Laws of War and Rules of Engagement. The book presents robot architectural design recommendations for Post facto suppression of unethical behavior, Behavioral design that incorporates ethical constraints from the onset, The use of affective functions as an adaptive component in the event of unethical action, and A mechanism that identifies and advises operators regarding their ultimate responsibility for the deployment of autonomous systems. It also examines why soldiers fail in battle regarding ethical decisions; discusses the opinions of the public, researchers, policymakers, and military personnel on the use of lethality by autonomous systems; provides examples that illustrate autonomous systems' ethical use of force; and includes relevant Laws of War. Helping ensure that warfare is conducted justly with the advent of autonomous robots, this book shows that the first steps toward creating robots that not only conform to international law but outperform human soldiers in their ethical capacity are within reach in the future. It supplies the motivation, philosophy, formalisms, representational requirements, architectural design criteria, recommendations, and test scenarios to design and construct an autonomous robotic system capable of ethically using lethal force. Ron Arkin was quoted in a November 2010 New York Times article about robots in the military.

Proceedings of the ... IEEE Computer Society Workshop on Future Trends of Distributed Computing Systems- 1995

The Future of the International Legal Order: Trends and patterns-Cyril Edwin Black 1969

State School System Development: Patterns and Trends-Charles Ocelus Fitzwater 1968