

Building Better Robots Science Frontiers Paperback

The last decade has seen dramatic advances in artificial intelligence and robotics technology, raising tough questions that need to be addressed. *The Robot Will See You Now* considers how Christians can respond to these issues - and flourish - in the years ahead. Contributions from a number of international experts, including editors John Wyatt and Stephen Williams, explore a range of social and ethical issues raised by recent advances in AI and robotics. Considering the role of artificial intelligence in areas such as medicine, employment and security, the book looks at how AI is perceived as well as its actual impact on human interactions and relationships. Alongside are theological responses from an orthodox Christian perspective. Looking at how artificial intelligence and robotics may be considered in the light of Christian doctrine, *The Robot Will See You Now* offers a measured, thoughtful view on how Christians can understand and prepare for the challenges posted by the development of AI. This is a book for anyone who is interested in learning more about how AI and robots have advanced in recent years, and anyone who has wondered how Christian teaching relates to artificial intelligence. Whatever your level of technical knowledge, *The Robot Will See You Now* will give you a thorough understanding of AI and equip you to respond to the challenges it poses with confidence and faith.

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This book explores whether the new capabilities made possible by precision-strike technologies are reshaping approaches to international intervention. Since the end of the Cold War, US technological superiority has led to a more proactive and, some would argue, high risk approach to international military intervention. New technologies including the capacity to mount precision military strikes from high-level bombing campaigns and, more recently, the selective targeting of individuals from unmanned aerial vehicles (UAVs) have facilitated air campaigns, supported by Special Forces, without the commitment of large numbers of troops on the ground. Such campaigns include, for example, NATO's high-level aerial bombardment of Milosevic's forces in Kosovo in 1999 and of Gaddafi's in Libya in 2011, and the US operation involving Special Forces against Osama Bin Laden. The development of UAVs and electronic data intercept technologies has further expanded the potential scope of interventions, for example against Islamic militants in the tribal areas of Pakistan. This volume examines three key and interrelated dimensions of these new precision-strike capabilities: (1) the strategic and foreign policy drivers and consequences; (2) the legal and moral implications of the new capabilities; and (3), the implications for decision-making at the strategic, operational and tactical levels. This book will be of much interest to students of war and technology, air power, international intervention, security studies and IR.

Discusses major scientists and scientific issues and discoveries of the last half of the twentieth century.

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The International Space Station (ISS) is the largest man-made structure to orbit Earth and has been conducting research for close to a decade and a half. Yet it is only the latest in a long line of space stations and laboratories that have flown in orbit since the early 1970s. The histories of these earlier programs have been all but forgotten as the public focused on other, higher-profile adventures such as the Apollo moon landings. A vast trove of stories filled with excitement, danger, humor, sadness, failure, and success, *Outposts on the Frontier* reveals how the Soviets and the Americans combined strengths to build space stations over the past fifty years. At the heart of these scientific advances are people of both greatness and modesty. Jay Chladek documents the historical tapestry of the people, the early attempts at space station programs, and how astronauts and engineers have contributed to and shaped the ISS in surprising ways. *Outposts on the Frontier* delves into the intriguing stories behind the USAF Manned Orbiting Laboratory, the Almaz and Salyut programs, Skylab, the Apollo-Soyuz Test Project, Spacelab, Mir station, Spacehab, and the ISS and gives past-due attention to Vladimir Chelomei, the Russian designer whose influence in space station development is as significant as Sergei Korolev's in rocketry. *Outposts on the Frontier* is an informative and dynamic history of humankind's first outposts on the frontier of space.

From ancient times to the present day, scientifically inclined women in many cultures have had to battle against the traditional belief that men are more cognitively adept than women. At times throughout

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history, women were persecuted for their attempts to break down traditional gender barriers. Today, women scientists and mathematicians must continue to defend the quality of their work and demand the respect they deserve in the mathematical and scientific communities. *A to Z of Women in Science and Math, Revised Edition* profiles 195 women who fought against these stereotypes throughout history and all over the world to forge new discoveries and theories that would eventually change the way we view science. This thoroughly revised book updates the story of each individual to the present day and features 38 new profiles. Among the profiles included are those of chemists, astronomers, geologists, environmental scientists, and a range of other professions and careers. In addition, new photographs have been added, and the bibliography has been updated. Subject indexes allow the reader to search by such professions as microbiology and paleontology. Additional subject indexes organize individuals by country of birth, country of major scientific activity, and year of birth.

This book collects papers selected by an international program committee for presentation at the 8th International Symposium on Distributed Autonomous Robotic Systems. The papers present state of the art research advances in the field of distributed robotics. What makes this book distinctive is the emphasis on using multiple robots and on making them autonomous, as opposed to being teleoperated. Novel algorithms, system architectures, technologies, and numerous applications are covered.

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Take a journey into the New Space Frontier! It is easy to imagine that the space shuttle's retirement has edged the Space Age toward closure, at least in terms of human flight beyond the bounds of earth. In fact, there are more people-carrying ships being constructed now than at any time since Yuri Gagarin became the first man in space half a century ago. Some are already servicing the International Space Station - which, incidentally, has ensured a permanent human presence in space for the last two decades, and is set to continue and expand for decades yet to come. What's more, NASA is no longer the only big player in the space game. Commercial, non-governmental space exploration is becoming a reality rather than just a pipe dream. What orbital adventures await us in the next five decades? Will humans ever again head into deep space, as the Apollo astronauts once did? NASA's new hardware is aimed toward asteroid missions, and ultimately, Mars, but there is a significant chance that a government funded space agency will not be the only - or even the first - organization to send humans across the solar system. Get ready to experience the excitement of adventure with New Space Frontier. Through gorgeous photography and engaging writing, noted space and science author Piers Bizony speculates beyond just today's hardware and explores what might be possible for the next generation.

This book aims to give policy makers an overview of the evolution of science, technology and innovation (STI) policies in a selected number of East Asian countries. China, Japan, Republic of Korea and Singapore have

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transformed their economies and societies in recent decades. From STI policies that enabled catch-up growth, these countries have evolved towards policies that are more aligned with sustainable development through integrating social, economic and environmental dimensions into their STI policies. The forthcoming Fourth Industrial Revolution is also reshaping STI policies in these countries as governments prepare to support the development of frontier technologies such as artificial intelligence, as well as respond to the impacts of these technologies on their societies and economies. Governments are also evolving themselves as the public sector opens up to integrating innovations from civil society and the private sector and further strengthen the innovation capacity of the public sector to improve policy making processes and deliver services to their constituents. All three themes are explored in this book in separate chapters, through a comparative analysis of the STI policies of China, Japan, Republic of Korea and Singapore. The experiences of these countries can serve as useful references for other countries in the Asia-Pacific region and beyond that are interested in utilizing national level STI policies to achieve sustainable development, particularly in the context of the emergence of frontier technologies.

As a segment of the broader science of automation, robotics has achieved tremendous progress in recent decades due to the advances in supporting technologies such as computers, control systems, cameras and electronic vision, as well as micro and nanotechnology. Prototyping a design helps in determining system

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parameters, ranges, and in structuring an overall better system. Robotics is one of the industrial design fields in which prototyping is crucial for improved functionality. Prototyping of Robotic Systems: Applications of Design and Implementation provides a framework for conceptual, theoretical, and applied research in robotic prototyping and its applications. Covering the prototyping of various robotic systems including the complicated industrial robots, the tiny and delicate nanorobots, medical robots for disease diagnosis and treatment, as well as the simple robots for educational purposes, this book is a useful tool for those in the field of robotics prototyping and as a general reference tool for those in related fields.

The trend that began with ATMs and do-it-yourself checkouts is moving at lightning speed. Everything from driving to teaching to the care of the elderly and, indeed, code-writing can now be done by smart machines. Conventional wisdom says there will be new jobs to replace those we lose – but is it so simple? And are we ready? Technology writer and think-tank director Nigel Cameron argues it's naive to believe we face a smooth transition. Whether or not there are "new" jobs, we face massive disruption as the jobs millions of us are doing get outsourced to machines. A twenty-first-century "rust belt" will rapidly corrode the labor market and affect literally hundreds of different kinds of jobs simultaneously. Robots won't design our future – we will. Yet shockingly, political leaders and policy makers don't seem to have this in their line of sight. So how should we assess and prepare for the risks of this unknown future?

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How a built environment that is robotic and interactive becomes an apt home to our restless, dynamic, and increasingly digital society. The relationship of humans to computers can no longer be represented as one person in a chair and one computer on a desk. Today computing finds its way into our pockets, our cars, our appliances; it is ubiquitous—an inescapable part of our everyday lives. Computing is even expanding beyond our devices; sensors, microcontrollers, and actuators are increasingly embedded into the built environment. In *Architectural Robotics*, Keith Evan Green looks toward the next frontier in computing: interactive, partly intelligent, meticulously designed physical environments. Green examines how these “architectural robotic” systems will support and augment us at work, school, and home, as we roam, interconnect, and age. Green tells the stories of three projects from his research lab that exemplify the reconfigurable, distributed, and transfigurable environments of architectural robotics. The *Animated Work Environment* is a robotic work environment of shape-shifting physical space that responds dynamically to the working life of the people within it; *home+* is a suite of networked, distributed “robotic furnishings” integrated into existing domestic and healthcare environments; and *LIT ROOM* offers a simulated environment in which the physical space of a room merges with the imaginary space of a book, becoming “a portal to elsewhere.” How far beyond workstations, furniture, and rooms can the environments of architectural robotics stretch? Green imagines scaled-up neighborhoods, villages, and metropolises composed of

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physical bits, digital bytes, living things, and their hybrids. Not global but local, architectural robotics grounds computing in a capacious cyber-physical home.

Building Better Robots12-Story Library

Inner speech lies at the chaotic intersection of several difficult questions in contemporary philosophy and psychology. On the one hand, these episodes are private mental events. On the other, they resemble speech acts of the sort used in interpersonal communication. Inner speech episodes seem to constitute or express sophisticated trains of conceptual thought but, at the same time, they are motoric in nature and draw on sensorimotor mechanisms for speech production and perception more generally. By using inner speech, we seem to both regulate our bodily actions and gain a unique kind of access to our own beliefs and desires.

Inner Speech: New Voices explores this familiar and yet mysterious element of our daily lives, bringing together contributions from leading philosophers, psychologists, and neuroscientists. In response to renewed interest in the general connections between thought, language, and consciousness, these leading thinkers develop a number of important new theories, raise questions about the nature of inner speech and its cognitive functions, and debate the current controversies surrounding the 'little voice in the head.'

Join super scientist Max Axiom as he explores the technology behind and everyday use of robots in our world. Science and engineering content central to the STEM Initiative comes alive in full-color graphic novel format. Max's adventures make it all fun!

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Bring a robot to life without programming or assembly language skills! There's never been a better time to explore the world of the nearly human. With the complete directions supplied by popular electronics author John Lovine, you can:

- Build your first walking, talking, sensing, thinking robot
- Create 12 working robotic projects, using the fully illustrated instructions provided
- Get the best available introduction to robotics, motion control, sensors, and neural intelligence
- Put together basic modules to build sophisticated 'bots of your own design
- Construct a robotic arm that responds to your spoken commands
- Build a realistic, functional robotic hand
- Apply sensors to detect bumps, walls, inclines, and roads
- Give your robot expertise and neural intelligence

You get everything you need to create 12 exciting robotic projects using off-the-shelf products and workshop-built devices, including a complete parts list. Also ideal for anyone interested in electronic and motion control, this cult classic gives you the building blocks you need to go practically anywhere in robotics.

Science and art were not always two separate entities. Historically, times of great scientific progress occurred during profound movements in art, the two disciplines working together to enrich and expand humanity's understanding of its place in this cosmos. Only recently has a dividing line been drawn, and this seeming dichotomy misses some of the

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fundamental similarities between the two endeavors. At the National Academies Keck Futures Initiative Conference on Art, Design and Science, Engineering and Medicine Frontier Collaborations: Ideation, Translation, and Realization, participants spent 3 days exploring diverse challenges at the interface of science, engineering, and medicine. They were arranged into Seed Groups that were intentionally diverse, to encourage the generation of new approaches by combining a range of different types of contributions. The teams included creative practitioners from the fields of art, design, communications, science, engineering, and medicine, as well as representatives from private and public funding agencies, universities, businesses, journals, and the science media.

In factories! In the sky! In your cars and phones! In your own home! Robots are everywhere! And they have been for a lot longer than you might realize. From tea-serving robots in feudal Japan to modern rovers exploring Mars, robots have been humanity's partners, helpers, and protectors for centuries! Join one of the world's earliest robots, a mechanical bird named Pouli, as he explores where robots came from, how they work, and where they're going in this informative and hilarious new book! Ever dreamt of building your own best friend? It might be easier than you think! Every volume of Science Comics offers a complete introduction to a particular topic—dinosaurs,

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coral reefs, the solar system, volcanoes, bats, flying machines, and more. These gorgeously illustrated graphic novels offer wildly entertaining views of their subjects. Whether you're a fourth grader doing a natural science unit at school or a thirty year old with a secret passion for airplanes, these books are for you!

Over the past century, educational psychologists and researchers have posited many theories to explain how individuals learn, i.e. how they acquire, organize and deploy knowledge and skills. The 20th century can be considered the century of psychology on learning and related fields of interest (such as motivation, cognition, metacognition etc.) and it is fascinating to see the various mainstreams of learning, remembered and forgotten over the 20th century and note that basic assumptions of early theories survived several paradigm shifts of psychology and epistemology. Beyond folk psychology and its naïve theories of learning, psychological learning theories can be grouped into some basic categories, such as behaviorist learning theories, connectionist learning theories, cognitive learning theories, constructivist learning theories, and social learning theories. Learning theories are not limited to psychology and related fields of interest but rather we can find the topic of learning in various disciplines, such as philosophy and epistemology, education, information science,

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biology, and – as a result of the emergence of computer technologies – especially also in the field of computer sciences and artificial intelligence. As a consequence, machine learning struck a chord in the 1980s and became an important field of the learning sciences in general. As the learning sciences became more specialized and complex, the various fields of interest were widely spread and separated from each other; as a consequence, even presently, there is no comprehensive overview of the sciences of learning or the central theoretical concepts and vocabulary on which researchers rely. The Encyclopedia of the Sciences of Learning provides an up-to-date, broad and authoritative coverage of the specific terms mostly used in the sciences of learning and its related fields, including relevant areas of instruction, pedagogy, cognitive sciences, and especially machine learning and knowledge engineering. This modern compendium will be an indispensable source of information for scientists, educators, engineers, and technical staff active in all fields of learning. More specifically, the Encyclopedia provides fast access to the most relevant theoretical terms provides up-to-date, broad and authoritative coverage of the most important theories within the various fields of the learning sciences and adjacent sciences and communication technologies; supplies clear and precise explanations of the theoretical terms, cross-references to related entries and up-to-

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date references to important research and publications. The Encyclopedia also contains biographical entries of individuals who have substantially contributed to the sciences of learning; the entries are written by a distinguished panel of researchers in the various fields of the learning sciences.

DARS is now a well-established conference that gathers every two years the main researchers in Distributed Robotics systems. Even if the field is growing, it has been maintained a one-track conference in order to enforce effective exchanges between the main researchers in the field. It now a well-established tradition to publish the main contributions as a book from Springer. There are already 5 books entitled "Distributed Autonomous Robotic Systems" 1 to 5.

Simple text and illustrations describe technological advancements in the field of robotics.

This book highlights the latest advancements in the use of automated systems in the design, construction, operation and future of the built environment and its occupants. It considers how the use of automated decision-making frameworks, artificial intelligence and other technologies of automation are presently impacting the practice of architects, engineers, project managers and contractors, and articulates the near future changes to workflows, legal frameworks and the wider AEC

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industry. This book surveys and compiles the use of city apps, robots that operate buildings and fabricate structural elements, 3D printing, drones, sensors, algorithms, and advanced prefabricated modules. The book also contributes to the growing literature on smart cities, and explores the impacts on data privacy and data sovereignty that arise through the use of sensors, digital twins and intelligent transport systems. It provides a useful reference for further research and development in the area of automation in design and construction to architects, engineers, project managers, superintendents and construction lawyers, contractors, policy makers, and students. This book constitutes the proceedings of the 11th RoboCup International Symposium, held in Atlanta, GA, USA, in July 2007, immediately after the 2007 RoboCup Soccer, RoboCup Rescue and RoboCup Junior competitions. Papers presented at the symposium focused on topics related to these three events and to artificial intelligence and robotics in general. The 18 revised full papers and 42 revised poster papers included in the book were selected from 133 submissions. Each paper was reviewed by at least three program committee members. The program committee also nominated two papers for the Best Paper and Best Student Paper awards, respectively. The book provides a valuable source of reference and inspiration for R&D professionals and educationalists active or interested in robotics and artificial intelligence.

Building a conscious robot is a scientific and technological challenge. Debates about the possibility of conscious robots and the related positive outcomes and hazards for human

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beings are today no longer confined to philosophical circles. Robot consciousness is a research field aimed at a two-part goal: on the one hand, scholars working in robot consciousness take inspiration from biological consciousness to build robots that present forms of experiential and functional consciousness. On the other hand, scholars employ robots as tools to better understand biological consciousness. Thus, part one of the goal concerns the replication of aspects of biological consciousness in robots, by unifying a variety of approaches from AI and robotics, cognitive robotics, epigenetic and affective robotics, situated and embodied robotics, developmental robotics, anticipatory systems, and biomimetic robotics. Part two of the goal is pursued by employing robots to advance and mark progress in the study of consciousness in humans and animals.

Notably, neuroscientists involved in the study of consciousness do not exclude the possibility that robots may be conscious. This eBook comprises a collection of thirteen manuscripts and an Editorial published by Frontiers in Robotics and Artificial Intelligence, under the section Humanoid Robotics, and Frontiers in Neurorobotics, on the topic "Consciousness in Humanoid Robots." This compendium aims at collating the most recent theoretical studies, models, and case studies of machine consciousness that take the humanoid robot as a frame of reference. The content in the articles may be applied to many different kinds of robots, and to software agents as well.

The Cambridge Handbooks on Construction Robotics discuss progress in robot systems theory and demonstrate their integration using real systematic applications and projections for offsite as well as onsite building production. The series is intended to give professionals, researchers, lecturers, and students conceptual and technical skills and implementation strategies to manage, research or teach the implementation

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of advanced automation and robot-technology-based processes in construction. Robot-Oriented Design introduces the design, innovation and management methodologies that are key to the realization and implementation of the advanced concepts and technologies presented in the subsequent volumes. This book describes the efficient deployment of advanced construction and building technology. It is concerned with the coadaptation of construction products, processes, organization and management, and with automated/robotic technology, so that the implementation of modern technology becomes easier and more efficient. It is also concerned with technology and innovation management methodologies and the generation of life cycle-oriented views related to the use of advanced technologies in construction. This open access book examines recent advances in how artificial intelligence (AI) and robotics have elicited widespread debate over their benefits and drawbacks for humanity. The emergent technologies have for instance implications within medicine and health care, employment, transport, manufacturing, agriculture, and armed conflict. While there has been considerable attention devoted to robotics/AI applications in each of these domains, a fuller picture of their connections and the possible consequences for our shared humanity seems needed. This volume covers multidisciplinary research, examines current research frontiers in AI/robotics and likely impacts on societal well-being, human – robot relationships, as well as the opportunities and risks for sustainable development and peace. The attendant ethical and religious dimensions of these technologies are addressed and implications for regulatory policies on the use and future development of AI/robotics technologies are elaborated. This volume includes 15 papers from the National Academy of Engineering's 2006 U.S. Frontiers of Engineering (USFOE)

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Symposium held in September 2006. USFOE meetings bring together 100 outstanding engineers (ages 30 to 45) to exchange information about leading-edge technologies in a range of engineering fields. The 2006 symposium covered four topic areas: intelligent software systems and machines, the nano/bio interface, engineering personal mobility for the 21st century, and supply chain management. A paper by dinner speaker Dr. W. Dale Compton, Lillian M. Gilbreth Distinguished Professor of Industrial Engineering, Emeritus, is also included. The papers describe leading-edge research on commercializing auditory neuroscience, future developments in bionanotechnology, sustainable urban transportation, and managing disruptions to supply chains, among other topics. Appendixes include information about contributors, the symposium program, and a list of meeting participants. This is the twelfth volume in the USFOE series.

The second edition of this handbook provides a state-of-the-art overview on the various aspects in the rapidly developing field of robotics. Reaching for the human frontier, robotics is vigorously engaged in the growing challenges of new emerging domains. Interacting, exploring, and working with humans, the new generation of robots will increasingly touch people and their lives. The credible prospect of practical robots among humans is the result of the scientific endeavour of a half a century of robotic developments that established robotics as a modern scientific discipline. The ongoing vibrant expansion and strong growth of the field during the last decade has fueled this second edition of the Springer Handbook of Robotics. The first edition of the handbook soon became a landmark in robotics publishing and won the American Association of Publishers PROSE Award for Excellence in Physical Sciences & Mathematics as well as the organization's Award for Engineering & Technology. The second edition of the handbook, edited by two internationally

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renowned scientists with the support of an outstanding team of seven part editors and more than 200 authors, continues to be an authoritative reference for robotics researchers, newcomers to the field, and scholars from related disciplines. The contents have been restructured to achieve four main objectives: the enlargement of foundational topics for robotics, the enlightenment of design of various types of robotic systems, the extension of the treatment on robots moving in the environment, and the enrichment of advanced robotics applications. Further to an extensive update, fifteen new chapters have been introduced on emerging topics, and a new generation of authors have joined the handbook's team. A novel addition to the second edition is a comprehensive collection of multimedia references to more than 700 videos, which bring valuable insight into the contents. The videos can be viewed directly augmented into the text with a smartphone or tablet using a unique and specially designed app. Springer Handbook of Robotics Multimedia Extension Portal: <http://handbookofrobotics.org/> Collected here are 112 papers concerned with all manner of new directions in manufacturing systems given at the 41st CIRP Conference on Manufacturing Systems. The high-quality material presented in this volume includes reports of work from both scientific and engineering standpoints and several invited and keynote papers addressing the current cutting edge and likely future trends in manufacturing systems. The book's subjects include: (1) new trends in manufacturing systems design: sustainable design, ubiquitous manufacturing, emergent synthesis, service engineering, value creation, cost engineering, human and social aspects of manufacturing, etc.; (2) new applications for manufacturing systems – medical, life-science, optics, NEMS, etc.; (3) intelligent use of advanced methods and new materials – new manufacturing process technologies, high-

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hardness materials, bio-medical materials, etc.; (4) integration and control for new machines – compound machine tools, rapid prototyping, printing process integration, etc.

Examines 12 of the most interesting facts about creating more adaptable and intelligent robots.

Concise and understandable information is paired with colorful spreads full of photographs and sidebars.

A timely investigation into the forces that are driving innovation in the four core areas of human experience: birth, food, sex, and death. In *Sex Robots & Vegan Meat*, award-winning journalist and documentary-maker Jenny Kleeman takes us on a journey into the world of the people who are changing what it means to be human. Focusing on four central pillars of the human experience—birth, food, sex, and death—Kleeman examines the people who are driving some truly amazing (and perhaps worrying) innovations. We are on the brink of seismic changes in the ways we live and die, from babies grown in artificial wombs to lab-produced meat; from sex robots able to hold polite conversation (and otherwise) to being able to choose to end our days with the perfect, painless, automated death. Our journey from cradle to grave is developing in ways which involve more and more technology, and less and less human interaction. Might these advances in technology serve to rob us of our humanity? In this book Jenny Kleeman takes a profound look at what

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the future might have in store—and asks some provocative questions along the way. Jenny Kleeman places these scientists front and center and asks what is driving and motivating them? Are they entrepreneurs in it for the greater good of human advancement, or might there be more sinister—i.e. monetary—motivations in play? Gleeman is a skilled and subtle interrogator and travels with the reader on a fascinating exploration of the changes afoot, their implications for who we are as a society—and as human beings. It's an immersive, eye-opening, and hugely entertaining journey into a world of extraordinary visionaries on the frontline of a social revolution.

This study explores ways in which digital skills can be developed and harnessed to support sustainable development in a current context of technological change. It discusses the types of skills that countries need to prepare the future workforces for the changing world and to maximise the development opportunities offered by existing and emerging technologies. It examines the potential of existing and emerging digital technologies in building and enhancing digital skills. The study also dwells upon technologies for education among other subjects.. Just War scholarship has adapted to contemporary crises and situations. But its adaptation has spurred debate and conversation—a method and means of pushing its thinking forward. Now the Just War

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tradition risks becoming marginalized. This concern may seem out of place as Just War literature is proliferating, yet this literature remains welded to traditional conceptualizations of Just War. Caron E. Gentry and Amy E. Eckert argue that the tradition needs to be updated to deal with substate actors within the realm of legitimate authority, private military companies, and the questionable moral difference between the use of conventional and nuclear weapons. Additionally, as recent policy makers and scholars have tried to make the Just War criteria legalistic, they have weakened the tradition's ability to draw from and adjust to its contemporaneous setting. The essays in *The Future of Just War* seek to reorient the tradition around its core concerns of preventing the unjust use of force by states and limiting the harm inflicted on vulnerable populations such as civilian noncombatants. The pursuit of these challenges involves both a reclaiming of traditional Just War principles from those who would push it toward greater permissiveness with respect to war, as well as the application of Just War principles to emerging issues, such as the growing use of robotics in war or the privatization of force. These essays share a commitment to the idea that the tradition is more about a rigorous application of Just War principles than the satisfaction of a checklist of criteria to be met before waging “just” war in the service of

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national interest.

'Illuminating, witty and written with a wide open mind' Sunday Times The idea of the seductive sex robot is the stuff of myth, legend and science fiction. From the myth of Laodamia in Ancient Greece to twenty-first century shows such as Westworld, robots in human form have captured our imagination, our hopes and our fears. But beyond the fantasies there are real and fundamental questions about our relationship with technology as it moves into the realm of robotics. Turned On explores how the emerging and future development of sexual companion robots might affect us and the society in which we live. It explores the social changes arising from emerging technologies, and our relationships with the machines that someday may care for us and about us. Sex robots are here, and here to stay, and more are coming. Computer scientist and sex-robot expert Kate Devlin is our guide as we seek to understand how this technology is developing. From robots in Greek myth and the fantastical automata of the Middle Ages through to the sentient machines of the future that embody the prominent AI debate, she explores the 'modern' robot versus the robot servants we were promised by twentieth century sci-fi, and delves into the psychological effects of the technology, and issues raised around gender politics, diversity, surveillance and violence. This book answers all the questions you've ever had

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about sex robots, as well as all the ones you haven't yet thought of.

Humanoid robots are highly sophisticated machines equipped with human-like sensory and motor capabilities. Today we are on the verge of a new era of rapid transformations in both science and engineering—one that brings together technological advancements in a way that will accelerate both neuroscience and robotics. *Humanoid Robotics and Neuroscience: Science, Engineering and Society* presents the contributions of prominent scientists who explore key aspects of the further potential of these systems. Topics include: Neuroscientific research findings on dexterous robotic hand control Humanoid vision and how understanding the structure of the human eye can lead to improvements in artificial vision Humanoid locomotion, motor control, and the learning of motor skills Cognitive elements of humanoid robots, including the neuroscientific aspects of imitation and development The impact of robots on society and the potential for developing new systems and devices to benefit humans The use of humanoid robotics can help us develop a greater scientific understanding of humans, leading to the design of better engineered systems and machines for society. This book assembles the work of scientists on the cutting edge of robotic research who demonstrate the vast possibilities in this field of research.

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This book provides IT professionals, educators, researchers, and students a compendium of knowledge on smart sensors and devices, types of sensors, data analysis and monitoring with the help of smart sensors, decision making, impact of machine learning algorithms, and artificial intelligence-related methodologies for data analysis and understanding of smart applications in networks. Smart sensor networks play an important role in the establishment of network devices which can easily interact with physical world through plethora of variety of sensors for collecting and monitoring the surrounding context and allowing environment information. Apart from military applications, smart sensor networks are used in many civilian applications nowadays and there is a need to manage high volume of demands in related applications. This book comprises of 9 chapters and presents a valuable insight on the original research and review articles on the latest achievements that contributes to the field of smart sensor networks and their usage in real-life applications like smart city, smart home, e-healthcare, smart social sensing networks, etc. Chapters illustrate technological advances and trends, examine research opportunities, highlight best practices and standards, and discuss applications and adoption. Some chapters also provide holistic and multiple perspectives while examining the impact of smart

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sensor networks and the role of data analytics, data sharing, and its control along with future prospects.

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