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KEY=IMPLEMENTATIONS - STONE LLOYD

A Construction Manual for Robots' Ethical Systems Requirements, Methods, Implementations

Springer This book will help researchers and engineers in the design of ethical systems for robots, addressing the philosophical questions that arise and exploring modern applications such as assistive robots and self-driving cars. The contributing authors are among the leading academic and industrial researchers on this topic and the book will be of value to researchers, graduate students and practitioners engaged with robot design, artificial intelligence and ethics.

A World with Robots

International Conference on Robot Ethics: ICRE 2015

Springer This book contains the Proceedings of the International Conference on Robot Ethics, held in Lisbon on October 23 and 24, 2015. The conference provided a multidisciplinary forum for discussing central and evolving issues concerning safety and ethics that have arisen in various contexts where robotic technologies are being applied. The papers are intended to promote the formulation of more precise safety standards and ethical frameworks for the rapidly changing field of robotic applications. The conference was held at Pavilhão do Conhecimento/Ciência Viva in Lisbon and brought together leading researchers and industry representatives, promoting a dialogue that combines different perspectives and experiences to arrive at viable solutions for ethical problems in the context of robotics. The conference topics included but were not limited to emerging ethical, safety, legal and societal problems in the following domains: • Service/Social Robots: Robots performing tasks in human environments and involving close human-robot interactions in everyday households; robots for education and entertainment; and robots employed in elderly and other care applications • Mobile Robots: Self-driving vehicles, autonomous aircraft, trains, cars and drones • Robots used in medicine and for therapeutic purposes • Robots used in surveillance and military functions

Reflections on Programming Systems

Historical and Philosophical Aspects

Springer This book presents a historical and philosophical analysis of programming systems, intended as large computational systems like, for instance, operating systems, programmed to control processes. The introduction to the volume emphasizes the contemporary need of providing a foundational analysis of such systems, rooted in a broader historical and philosophical discussion. The different chapters are grouped around three major themes. The first concerns the early history of large systems developed against the background of issues related to the growing semantic gap between hardware and code. The second revisits the fundamental issue of complexity of large systems, dealt with by the use of formal methods and the development of 'grand designs' like Unix. Finally, a third part considers several issues related to programming systems in the real world, including chapters on aesthetical, ethical and political

issues. This book will interest researchers from a diversity of backgrounds. It will appeal to historians, philosophers, as well as logicians and computer scientists who want to engage with topics relevant to the history and philosophy of programming and more specifically the role of programming systems in the foundations of computing.

Ethics of Artificial Intelligence

Oxford University Press As Artificial Intelligence (AI) technologies rapidly progress, questions about the ethics of AI, in both the near-future and the long-term, become more pressing than ever. This volume features seventeen original essays by prominent AI scientists and philosophers and represents the state-of-the-art thinking in this fast-growing field. Organized into four sections, this volume explores the issues surrounding how to build ethics into machines; ethical issues in specific technologies, including self-driving cars, autonomous weapon systems, surveillance algorithms, and sex robots; the long term risks of superintelligence; and whether AI systems can be conscious or have rights. Though the use and practical applications of AI are growing exponentially, discussion of its ethical implications is still in its infancy. This volume provides an invaluable resource for thinking through the ethical issues surrounding AI today and for shaping the study and development of AI in the coming years.

Engineering Multi-Agent Systems

9th International Workshop, EMAS 2021, Virtual Event,
May 3–4, 2021, Revised Selected Papers

Springer Nature

Ethics and Security Automata

Policy and Technical Challenges of the Robotic Use of Force

Routledge *Can security automata (robots and AIs) make moral decisions to apply force on humans correctly? If they can make such decisions, ought they be used to do so? Will security automata increase or decrease aggregate risk to humans? What regulation is appropriate? Addressing these important issues this book examines the political and technical challenges of the robotic use of force. The book presents accessible practical examples of the 'machine ethics' technology likely to be installed in military and police robots and also in civilian robots with everyday security functions such as childcare. By examining how machines can pass 'reasonable person' tests to demonstrate measurable levels of moral competence and display the ability to determine the 'spirit' as well as the 'letter of the law', the author builds upon existing research to define conditions under which robotic force can and ought to be used to enhance human security. The scope of the book is thus far broader than 'shoot to kill' decisions by autonomous weapons, and should attract readers from the fields of ethics, politics, and legal, military and international affairs. Researchers in artificial intelligence and robotics will also find it useful.*

Designing Robots, Designing Humans

Routledge *Whilst most research concentrates on the imagined future of robotics, this book brings together a group of international researchers to explore the different ways that robots and humans engage with one another at this point in history. Robotic design is advancing at an incredible pace, and consequently the role of robots has expanded beyond mechanical work in the industrial sector to the social and domestic environment. From kitchen table pets in the shape of dinosaurs or baby seals, to robot arms that assist with eating, to self-driving cars, this book explores the psychological impact of robotic engagement, especially in domestic settings. Each chapter explores a different aspect of humanoid robotics, for example, the relationship between robotics and gender, citizenship, moral agency, ethics, inequality, and psychological development, as well as exploring the growing role of robots in education, care work, and intimate relationships. Drawing on research from across the fields of psychology, anthropology, and philosophy, this ground-breaking volume discusses the emerging social side of robotics. By examining our relationship with robots now, this book offers a new and innovative opportunity for understanding our future with robots and robotic culture. Designing Robots, Designing Humans will be interest to researchers of artificial intelligence and humanoid robotics, as well as researchers from cognitive and social*

psychology, philosophy, computer science, anthropology, linguistics, and engineering backgrounds.

Information Systems

17th European, Mediterranean, and Middle Eastern Conference, EMCIS 2020, Dubai, United Arab Emirates, November 25–26, 2020, Proceedings

Springer Nature This book constitutes the proceedings papers from the 17th European, Mediterranean, and Middle Eastern Conference on Information Systems, EMCIS 2020, held in Dubai, UAE, in November 2020. Due to the COVID-19 pandemic the conference took place virtually. EMCIS focuses on approaches that facilitate the identification of innovative research of significant relevance to the Information Systems discipline following sound research methodologies that lead to results of measurable impact. The 56 papers presented in this volume were carefully reviewed and selected from a total of 161 submissions to the main conference. They are grouped in section on Big Data and Analytics, Blockchain Technology and Applications, Digital Government, Digital Services and Social Media, Emerging Computing Technologies and Trends for Business Process Management, Enterprise Systems, Healthcare Information Systems, Information Systems Security and Information Privacy Protection, Innovative Research Projects, Management and Organisational Issues in Information Systems.

Co-Corporeality of Humans, Machines, & Microbes

Birkhäuser The theory of Co-Corporeality is based on a conception of the built environment as a biological entity that opens up a space for coexistence and interaction between humans and microbial life. Based on design-led research, this book explores how we can develop environments for a multispecies world. It focuses on the agency of both human and nonhuman actors. New sensor tools enable observation of and interaction between these different actors. Co-Corporeality links microbiology to material science, artificial intelligence, and architecture. The focus is on how microbial activity can create new protoarchitectural materials, how living systems can be integrated into architecture and cooperate along different time scales.

The Oxford Handbook of Ethics of AI

Oxford Handbooks This interdisciplinary and international handbook captures and shapes much needed reflection on normative frameworks for the production, application, and use of artificial intelligence in all spheres of individual, commercial, social, and public life.

Oxford Handbook of Ethics of AI

Oxford University Press This volume tackles a quickly-evolving field of inquiry, mapping the existing discourse as part of a general attempt to place current developments in historical context; at the same time, breaking new ground in taking on novel subjects and pursuing fresh approaches. The term "A.I." is used to refer to a broad range of phenomena, from machine learning and data mining to artificial general intelligence. The recent advent of more sophisticated AI systems, which function with partial or full autonomy and are capable of tasks which require learning and 'intelligence', presents difficult ethical questions, and has drawn concerns from many quarters about individual and societal welfare, democratic decision-making, moral agency, and the prevention of harm. This work ranges from explorations of normative constraints on specific applications of machine learning algorithms today-in everyday medical practice, for instance-to reflections on the (potential) status of AI as a form of consciousness with attendant rights and duties and, more generally still, on the conceptual terms and frameworks necessarily to understand tasks requiring intelligence, whether "human" or "A.I."

Programming Machine Ethics

Springer This book addresses the fundamentals of machine ethics. It discusses abilities required for ethical machine reasoning and the programming features that enable them. It connects ethics, psychological ethical processes, and machine implemented procedures. From a technical point of view, the book uses logic programming and evolutionary game theory to model and link the individual and collective moral realms. It also reports on the results of experiments performed using several model implementations. Opening specific and promising inroads into the terra incognita of machine ethics, the authors define here new tools and describe a variety of program-tested moral applications and implemented systems. In addition, they provide alternative readings paths, allowing readers to best focus on their specific interests and to explore the concepts at different levels of detail. Mainly written for researchers in

cognitive science, artificial intelligence, robotics, philosophy of technology and engineering of ethics, the book will also be of general interest to other academics, undergraduates in search of research topics, science journalists as well as science and society forums, legislators and military organizations concerned with machine ethics.

Rethinking Machine Ethics in the Age of Ubiquitous Technology

IGI Global As the utilization of intelligent machines spreads to numerous realms, the discourse of machine ethics has also developed and expanded. Concerns over machine intelligence and the role of automata in everyday life must be addressed before artificial intelligence and robotic technologies may be fully integrated into human society. Rethinking Machine Ethics in the Age of Ubiquitous Technology blends forward-looking, constructive, and interdisciplinary visions of ethical ideals, aims, and applications of machine technology. This visionary reference work incorporates ethical conversations in the fields of technology, computer science, robotics, and the medical industry, creating a vibrant dialogue between philosophical ideals and the applied sciences. With its broad scope of relevant topics, this book serves as an excellent tool for policymakers, academicians, researchers, advanced-level students, technology developers, and government officials. This timely publication features thoroughly researched articles on the topics of artificial moral agency, cyber-warfare, transhumanism, organic neural nets, human worker replacement, automaticity and global governance, security and surveillance, military drones, and more.

Human-Robot Interaction

Control, Analysis, and Design

Cambridge Scholars Publishing This book introduces state-of-the-art technologies in the field of human-robot interactions. It details advances made in this field in recent decades, including dynamics, controls, design analysis, uncertainties, and modelling. The text will appeal to graduate students, practitioners and researchers in the fields of robotics, computer and cognitive science, and mechanical engineering.

Morality and Emotion

Routledge Despite the many attempts to disentangle the relationship between morality and emotion, as is clear from the myriad of approaches that try to understand the nature and importance of their connection, the extent of this synergy remains rather controversial. The multidisciplinary framework of the present volume was specifically designed to challenge self-containing disciplinary views, encouraging a more integrative analysis that covers various methodological angles and theoretical perspectives. Contributions include discussions on the interrelation between moral philosophy, emotion and identity, namely the clash between grand ethical theories and the practicality of human life; philosophical considerations on akrasia or the so called weakness of will, and the factors behind it; anthropological reflections on empathy and prosocial behavior; accounts from artificial intelligence and evolutionary game theory; and literary and artistic dissections of emotional responses to the representational power of fiction and the image. The inclusion of chapters from varied scientific backgrounds substantially enriches this debate and shows that several core questions, such as the ones related to identity and to the way we perceive the other and ourselves, are transversal. It is therefore valuable and pressing to further explore these common threads, and to encourage disciplinary dialogues across both traditional and emerging fields to help shed new light on the puzzling and fascinating ways in which morality and emotion are mutually imbricated.

Machine Ethics

From Machine Morals to the Machinery of Morality

Springer Nature This book offers the first systematic guide to machine ethics, bridging between computer science, social sciences and philosophy. Based on a dialogue between an AI scientist and a novelist philosopher, the book discusses important findings on which moral values machines can be taught and how. In turn, it investigates what kind of artificial intelligence (AI) people do actually want. What are the main consequences of the integration of AI in people's every-day life? In order to co-exist and collaborate with humans, machines need morality, but which moral values should we teach them? Moreover, how can we implement benevolent AI? These are just some of the questions carefully examined in the book, which offers a comprehensive account of ethical issues concerning AI, on the one hand, and a timely snapshot of the power and potential benefits of this technology on the other. Starting with an introduction to common-sense ethical principles, the book then guides the reader, helping them develop and understand more complex ethical

concerns and placing them in a larger, technological context. The book makes these topics accessible to a non-expert audience, while also offering alternative reading pathways to inspire more specialized readers.

Digital Transformation and Ethics

Ethical Considerations on the Robotization and Automation of Society and the Economy and the Use of Artificial Intelligence

Nomos Verlag Dieses Buch diskutiert die Digitalisierung, Robotisierung und Automatisierung der Gesellschaft und Wirtschaft und den Einsatz von künstlicher Intelligenz aus einer ethischen Perspektive. Nach einer Einleitung zur Beziehung zwischen Moral und Technologie und einer Bewertung der Moralfähigkeit von Technologien führt das Buch ethische Prinzipien ein, die der ethischen Beurteilung der digitalen Transformation der Gesellschaft und Wirtschaft zugrunde liegen. Anschließend werden Chancen und Herausforderungen der digitalen Transformation aus einer ethischen Sicht analysiert. Schließlich werden hinsichtlich der Herausforderungen ethische Lösungsansätze entwickelt. Einer der Forschungsschwerpunkte von Peter G. Kirchschräger (Ordinarius für Theologische Ethik und Leiter des Instituts für Sozialethik ISE an der Universität Luzern; zuvor Visiting Fellow an der Yale University) liegt auf der Ethik der Digitalisierung, Robotisierung, Automatisierung und künstlichen Intelligenz.

Philosophy and Computing

Essays in Epistemology, Philosophy of Mind, Logic, and

Ethics

Springer This book features papers from CEPE-IACAP 2015, a joint international conference focused on the philosophy of computing. Inside, readers will discover essays that explore current issues in epistemology, philosophy of mind, logic, and philosophy of science from the lens of computation. Coverage also examines applied issues related to ethical, social, and political interest. The contributors first explore how computation has changed philosophical inquiry. Computers are now capable of joining humans in exploring foundational issues. Thus, we can ponder machine-generated explanation, thought, agency, and other quite fascinating concepts. The papers are also concerned with normative aspects of the computer and information technology revolution. They examine technology-specific analyses of key challenges, from Big Data to autonomous robots to expert systems for infrastructure control and financial services. The virtue of a collection that ranges over philosophical questions, such as this one does, lies in the prospects for a more integrated understanding of issues. These are early days in the partnership between philosophy and information technology. Philosophers and researchers are still sorting out many foundational issues. They will need to deploy all of the tools of philosophy to establish this foundation. This volume admirably showcases those tools in the hands of some excellent scholars.

Emergent Computation

A Festschrift for Selim G. Akl

Springer This book is dedicated to Professor Selim G. Akl to honour his groundbreaking research achievements in computer science over four decades. The book is an intellectually stimulating excursion into emergent computing paradigms, architectures and implementations. World top experts in computer science, engineering and mathematics overview exciting and intriguing topics of musical rhythms generation algorithms, analyse the computational power of random walks, dispelling a myth of computational universality, computability and complexity at the microscopic level of synchronous computation, descriptive complexity of error detection, quantum cryptography, context-free parallel communicating grammar systems, fault tolerance of hypercubes, finite automata theory of bulk-synchronous parallel computing, dealing with silent data corruptions in high-performance computing, parallel sorting on graphics processing units, mining for functional dependencies in relational databases, cellular automata optimisation of wireless sensors networks, connectivity preserving network transformers, constrained resource networks, vague computing, parallel

evolutionary optimisation, emergent behaviour in multi-agent systems, vehicular clouds, epigenetic drug discovery, dimensionality reduction for intrusion detection systems, physical maze solvers, computer chess, parallel algorithms to string alignment, detection of community structure. The book is a unique combination of vibrant essays which inspires scientists and engineers to exploit natural phenomena in designs of computing architectures of the future.

Australasian Conference on Information Systems 2018

UTS ePRESS

Foundations of Trusted Autonomy

Springer *This book establishes the foundations needed to realize the ultimate goals for artificial intelligence, such as autonomy and trustworthiness. Aimed at scientists, researchers, technologists, practitioners, and students, it brings together contributions offering the basics, the challenges and the state-of-the-art on trusted autonomous systems in a single volume. The book is structured in three parts, with chapters written by eminent researchers and outstanding practitioners and users in the field. The first part covers foundational artificial intelligence technologies, while the second part covers philosophical, practical and technological perspectives on trust. Lastly, the third part presents advanced topics necessary to create future trusted autonomous systems. The book augments theory with real-world applications including cyber security, defence and space.*

Smart Technologies and Fundamental Rights

BRILL *The present volume, Smart Technologies and Fundamental Rights, contains fourteen outstanding and challenging articles concerning fundamental rights and Artificial Intelligence at the intersection of law, ethics and smart technologies.*

Transhumanism: The Proper Guide to a Posthuman

Condition or a Dangerous Idea?

Springer Nature This book examines the contributions of the transhumanism approach to technology, in particular the contributed chapters are wary of the implications of this popular idea. The volume is organized into four parts concerning philosophical, military, technological and sociological aspects of transhumanism, but the reader is free to choose various reading patterns. Topics discussed include gene editing, the singularity, ethical machines, metaphors in AI, mind uploading, and the philosophy of art, and some perspectives taken or discussed examine transhumanism within the context of the philosophy of technology, transhumanism as a derailed anthropology, and critical sociological aspects that consider transhumanism in the context of topical concerns such as whiteness, maleness, and masculinity. The book will be of value to researchers engaged with artificial intelligence, and the ethical, societal, and philosophical impacts of science and technology.

The Future of Museums

Springer This book explores—at the macro, meso and micro levels and in terms of qualitative as well as quantitative studies—the current and future role of museums for art and society. Given the dynamic developments in art and society, museums need to change in order to remain (and in some ways, regain) relevance. This relevance is in the sense of a power to influence. Additionally museums have challenges that arise in the production of art through the use of permanent and rapidly changing technologies. This book examines how museums deal with the increasing importance of performance art and social interactive art, artistic disciplines which refuse to use classical or digital artistic media in their artistic processes. The book also observes how museums are adapting in the digital age. It addresses such questions as, “How to keep museums in contact with recipients of art in a world in which the patterns of communication and perception have changed dramatically,” and also “Can the art museum, as a real place, be a counterpart in a virtualized and digitalized society or will museums need to virtualize and even globalize themselves virtually?” Chapters also cover topics such as the merits of digital technologies in museums and how visitors perceive these changes and innovations. When you go back to the etymological origin, the Mouseion of Alexandria, it was a place where – supported by the knowledge stored there – art and science were developed: a place of interdisciplinary research and networking, as you would call it today. The word from the Ancient Hellenic language for museum (ΜΟΥΣΕΙΟΝ) means the “house of the muses”: where the arts and sciences find their berth and cradle. With the “Wunderkammer,” the museum was re-invented as a place for amazing for purpose of representation of dynastic power, followed by the establishment of museums as a demonstration of bourgeois self-consciousness. In the twentieth century, the ideal of

the museum as an institution for education received a strong boost, before the museum as a tourism infrastructure became more and more the institutional, economic and political role-model. This book is interested in discovering what is next for museums and how these developments will affect art and society. Each of the chapters are written by academics in the field, but also by curators and directors of major museums and art institutions.

Die humanoide Herausforderung

Leben und Existenz in einer anthropozänen Zukunft

Springer-Verlag Cui bono? - Wem nutzt die Entwicklung humanoider Maschinen oder Automaten? Dieses Buch erörtert die Details dieses Spannungsfelds und die Herausforderung gesellschaftlicher Weiterentwicklung. Als technisch-elektronische Handhabungsgeräte können sie den Menschen zuträglich sein, sie von körperlich belastenden Arbeiten oder sogenannten Routinearbeiten befreien. Der Autor versucht die Fragen zu beleuchten: Was erwartet die Menschheit durch die Entwicklung einer künstlichen Intelligenz in einer menschähnlichen Maschine? Was aber, wenn der selbstbestimmende Mensch an der Schwelle steht, sich selbst durch intelligente selbstorganisierte Produkte und Prozesse eine humanoide Konkurrenz zu schaffen, die er möglicherweise nicht mehr kontrollieren kann?

Die Enden des Körpers

Versuch einer negativen Prothetik

Springer-Verlag Das Buch untersucht den Körper in doppelter Perspektive: Zum einen nimmt es den Körper in einem geometrischen Sinne beim Wort und fragt danach, welche realen und welche imaginären Grenzen dieser hat, wie weit er in reale, augmentierte oder virtuelle Räume hineinreicht, welche Interventionen an seinen Grenzen und Oberflächen ansetzen und nicht zuletzt, welche Aushandlungen sich an seinen Enden, an seinen räumlichen Umgrenzungen und an seiner vermeintlichen Geschlossenheit anlagern. In den Blick geraten so jene Kontaktpunkte, Schnittstellen und Interfaces, die den Körper mit einer Welt verbinden (z.B. im Fall smarter Wohn- und Arbeitsumgebungen) oder ihn von ihr abgrenzen. Der zweite Zugang handelt von der zeitlichen Dimension des Körpers, also von all den Szenarien des Endes, des Untergangs, des Verschwindens und Überflüssigwerdens, die dem Körper

prognostiziert wurden. Diesen Szenarien steht eine Vielzahl von Strategien gegenüber, die darauf abzielen, den scheinbar verlorenen Körper wieder zu restituieren.

Machine Ethics

Cambridge University Press *The new field of machine ethics is concerned with giving machines ethical principles, or a procedure for discovering a way to resolve the ethical dilemmas they might encounter, enabling them to function in an ethically responsible manner through their own ethical decision making. Developing ethics for machines, in contrast to developing ethics for human beings who use machines, is by its nature an interdisciplinary endeavor. The essays in this volume represent the first steps by philosophers and artificial intelligence researchers toward explaining why it is necessary to add an ethical dimension to machines that function autonomously, what is required in order to add this dimension, philosophical and practical challenges to the machine ethics project, various approaches that could be considered in attempting to add an ethical dimension to machines, work that has been done to date in implementing these approaches, and visions of the future of machine ethics research.*

Ethics of Artificial Intelligence

Oxford University Press, USA *Should a self-driving car prioritize the lives of the passengers over the lives of pedestrians? Should we as a society develop autonomous weapon systems that are capable of identifying and attacking a target without human intervention? What happens when AIs become smarter and more capable than us? Could they have greater than human moral status? Can we prevent superintelligent AIs from harming us or causing our extinction? At a critical time in this fast-moving debate, thirty leading academics and researchers at the forefront of AI technology development come together to explore these existential questions, including Aaron James (UC Irvine), Allan Dafoe (Oxford), Andrea Loreggia (Padova), Andrew Critch (UC Berkeley), Azim Shariff (Univ. .*

(UN)sichtbar

Erklärungsmuster, um die Welt heute zu verstehen

Walter de Gruyter GmbH & Co KG We are all too familiar with the complex new triggers of geopolitical uncertainty: a financial system that knows no boundaries, renationalization, desecularization, and both the bright and dark sides of technological revolutions. Yet the big picture often eludes us. GlobArt-Academy 2014 is devoted to addressing these issues.

Christsein in der Welt

Verlag Herder GmbH Mit dem Zweiten Vaticanum wendet sich die katholische Kirche der modernen Welt zu. Wie hat sich dieses neue "Christsein in der Welt" weiter entwickelt? Was heißt es angesichts der heutigen Herausforderungen von Migration, pluraler Gesellschaft, Digitalisierung oder prekären Arbeitsverhältnissen?

Machine Medical Ethics

Springer The essays in this book, written by researchers from both humanities and science, describe various theoretical and experimental approaches to adding medical ethics to a machine, what design features are necessary in order to achieve this, philosophical and practical questions concerning justice, rights, decision-making and responsibility in medical contexts, and accurately modeling essential physician-machine-patient relationships. In medical settings, machines are in close proximity with human beings: with patients who are in vulnerable states of health, who have disabilities of various kinds, with the very young or very old and with medical professionals. Machines in these contexts are undertaking important medical tasks that require emotional sensitivity, knowledge of medical codes, human dignity and privacy. As machine technology advances, ethical concerns become more urgent: should medical machines be programmed to follow a code of medical ethics? What theory or theories should constrain medical machine conduct? What design features are required? Should machines share responsibility with humans for the ethical consequences of medical actions? How ought clinical relationships involving machines to be modeled? Is a capacity for empathy and emotion detection necessary? What about consciousness? This collection is the first book that addresses these 21st-century concerns.

Behavioral Economics and Finance Leadership

Nudging and Winking to Make Better Choices

Springer Nature *This book explores human decision-making heuristics and studies how nudging and winking can help citizens to make rational choices. By applying the behavioral economics approach to political outcomes, it demonstrates how economics can be employed for the greater societal good. It starts with a review of the current literature on human decision-making failures in Europe and North America, presenting the wide range of nudges and winks developed to curb the harmful consequences of human decision-making fallibility. It then discusses the use of mental heuristics, biases and nudges in the finance domain to benefit economic markets by providing clear communication strategies. Lastly, the author proposes clear leadership and followership directives on nudging in the digital age. This book appeals to scholars and policy makers interested in rational decision-making and the use of nudging and winking in the digital age.*

Race for Sustainability

Energy, Economy, Environment and Ethics

World Scientific *“Even with the latest and best vehicles, machinery, technology and buildings, if we continue to use resources irresponsibly — if we continue to waste food, water and energy — we are not even in the race.” This book looks at the sustainable issues and the accompanying opportunities, and leads readers on a fast track to clear the air and drive to a sustainable, low-carbon future. To focus on renewable energy and energy efficiency. To stop the burning and stop wasting resources. Read on and let the wealth of information in this book inspire you along your sustainability journey. Join the race and act soon. A portfolio of stories, essays, profiles and case studies covering the four E's of Sustainability: Energy, Economy, Environment and Ethics.*

Contents: Introducing the Race for Sustainability Why Sustainability Matters Making Energy Efficiency Sexy Building Hopes Beyond Green Buildings The Sun Shines on Renewables Industrial and Innovative Solutions Gold Standard for Sustainable Events Air Pollution, Deforestation and Biodiversity Resourceful Management of Waste Energy Literacy and Creative Education Ethics, Media and Communication Readership: Professionals, researchers and students in the field of sustainability, climate change economics,

corporate social responsibility, and environmental studies, and the general public interested in sustainability and the environment. Key Features: Discusses a wide variety of sustainability issues with global significance, as well as provides insights into opportunities which we need to act urgently upon. Examines the profiles of leaders and visionaries in the sustainable race. Presents current and useful information on how we can each make a difference to better the environment. Keywords: Sustainability; Climate Change; Clean Energy; Waste Management; Low Carbon; Energy Efficiency; Four E's of Sustainability; Ethics; Environment; Energy; Economics; Green Buildings; Renewable Energy; Innovation in Energy Management; Sustainable Events; Air Pollution; Energy Literacy. Reviews: "This latest work by Hickson provides a very constructive and insightful commentary on global sustainability issues with a focus on how Singapore can play its part." Medical Tribune "The book is an interesting read, suitable for experts and those who are approaching the topic for the first time." Energia

Rising Stars in Human-Robot Interaction

Frontiers Media SA

Robot Ethics 2.0

New Challenges in Philosophy, Law, and Society

Oxford University Press The robot population is rising on Earth and other planets. (Mars is inhabited entirely by robots.) As robots slip into more domains of human life--from the operating room to the bedroom--they take on our morally important tasks and decisions, as well as create new risks from psychological to physical. This makes it all the more urgent to study their ethical, legal, and policy impacts. To help the robotics industry and broader society, we need to not only press ahead on a wide range of issues, but also identify new ones emerging as quickly as the field is evolving. For instance, where military robots had received much attention in the past (and are still controversial today), this volume looks toward autonomous cars here as an important case study that cuts across diverse issues, from liability to psychology to trust and more. And because robotics feeds into and is fed by AI, the Internet of Things, and other cognate fields, robot ethics must also reach into those domains, too. Expanding these discussions also means listening to new voices; robot ethics is no longer the concern of a handful of scholars. Experts from different academic disciplines and geographical areas are now playing vital roles in shaping ethical, legal, and policy discussions worldwide. So, for a more complete

study, the editors of this volume look beyond the usual suspects for the latest thinking. Many of the views as represented in this cutting-edge volume are provocative--but also what we need to push forward in unfamiliar territory.

Construction Robots

The Search for New Building Technology in Japan

Amer Society of Civil Engineers *The impact of robotics shows measured improvements in quality, productivity, and safety in construction. This book presents Japan's achievements in the development and application of over 100 construction robots and five automated systems.*

Robot Ethics

The Ethical and Social Implications of Robotics

MIT Press *Prominent experts from science and the humanities explore issues in robot ethics that range from sex to war. Robots today serve in many roles, from entertainer to educator to executioner. As robotics technology advances, ethical concerns become more pressing: Should robots be programmed to follow a code of ethics, if this is even possible? Are there risks in forming emotional bonds with robots? How might society—and ethics—change with robotics? This volume is the first book to bring together prominent scholars and experts from both science and the humanities to explore these and other questions in this emerging field. Starting with an overview of the issues and relevant ethical theories, the topics flow naturally from the possibility of programming robot ethics to the ethical use of military robots in war to legal and policy questions, including liability and privacy concerns. The contributors then turn to human-robot emotional relationships, examining the ethical implications of robots as sexual partners, caregivers, and servants. Finally, they explore the possibility that robots, whether biological-computational hybrids or pure machines, should be given rights or moral consideration. Ethics is often slow to catch up with technological developments. This authoritative and accessible volume fills a gap in both scholarly literature and policy discussion, offering an impressive collection of expert analyses of the most crucial topics in this increasingly important field.*

Aging between Participation and Simulation

Ethical Dimensions of Socially Assistive Technologies in Elderly Care

Walter de Gruyter GmbH & Co KG With increasing urgency, decisions about the digitalized future of healthcare and implementations of new assistive technologies are becoming focal points of societal and scientific debates and addresses large audiences. Decisions require a careful weighing of risks and benefits and contextualizing in-depth ethical analysis with robust empirical data. However, up to now, research on social assistive technologies is mostly dispersed over different academic fields and disciplines. A comprehensive overview on discussions regarding values at stake and ethical assessment of recent developments especially in healthcare is largely missing. This publication initiates an interdisciplinary discourse on ethical, legal and social implications of socially assistive technologies in healthcare. Contributions include perspectives from nursing science, social sciences, philosophy, medical ethics, economics and law to present an – to our knowledge – first and comprehensive overview on different aspects of the use and implementation of socially assistive technologies from an ethical perspective. It combines practically relevant insights and examples from current research and development with ethical analysis to uncover exemplary moral tipping points between promotion of participation or well-being and risks and damages to these values. Healthcare professionals involved in implementation of smart technologies as well as scholars from the field of humanities, nursing and medicine, interested in the discussions on ethics and technology in healthcare, will benefit from this new contribution. The publication is part of the international DigitAs conference "Aging between Participation and Simulation – Ethical Dimensions of Socially Assistive Technologies" held at the Institute of Medical Ethics and History of Medicine (Ruhr University Bochum) from 4 February to 8 February 2019. Within this framework, twelve young scholars were invited to discuss their contributions with renowned experts in the field. The Institute of Medical Ethics and History of Medicine is one of the leading institutes in empirically informed ethical analysis in healthcare and medicine and is a member of the European Association of Centres of Medical Ethics (EACME).

The Fourth Industrial Revolution

Currency Between the 18th and 19th centuries, Britain experienced massive leaps in technological, scientific, and economical advancement

The Machine Question

Critical Perspectives on AI, Robots, and Ethics

MIT Press An investigation into the assignment of moral responsibilities and rights to intelligent and autonomous machines of our own making. One of the enduring concerns of moral philosophy is deciding who or what is deserving of ethical consideration. Much recent attention has been devoted to the "animal question"—consideration of the moral status of nonhuman animals. In this book, David Gunkel takes up the "machine question": whether and to what extent intelligent and autonomous machines of our own making can be considered to have legitimate moral responsibilities and any legitimate claim to moral consideration. The machine question poses a fundamental challenge to moral thinking, questioning the traditional philosophical conceptualization of technology as a tool or instrument to be used by human agents. Gunkel begins by addressing the question of machine moral agency: whether a machine might be considered a legitimate moral agent that could be held responsible for decisions and actions. He then approaches the machine question from the other side, considering whether a machine might be a moral patient due legitimate moral consideration. Finally, Gunkel considers some recent innovations in moral philosophy and critical theory that complicate the machine question, deconstructing the binary agent-patient opposition itself. Technological advances may prompt us to wonder if the science fiction of computers and robots whose actions affect their human companions (think of HAL in 2001: A Space Odyssey) could become science fact. Gunkel's argument promises to influence future considerations of ethics, ourselves, and the other entities who inhabit this world.