

# Artificial Intelligence The Very Idea

[The book] provides a balanced survey of the fundamentals of artificial intelligence, emphasizing the relationship between symbolic and numeric processing. The text is structured around an innovative, interactive combination of LISP programming and AI; it uses the constructs of the programming language to help readers understand the array of artificial intelligence concepts presented. After an overview of the field of artificial intelligence, the text presents the fundamentals of LISP, explaining the language's features in more detail than any other AI text. Common Lisp is then used consistently, in both programming exercises and plentiful examples of actual AI code.- Back cover This text is intended to provide an introduction to both AI and LISP for those having a background in computer science and mathematics. -Pref.

Cognition and artificial intelligence are entering a new era in which the aspects of symbolic manipulation and of connectionism begin to come together. This leads to a dialog of truly interdisciplinary character. The book covers aspects of fuzzy logic, case based reasoning, learning as well as meaning, language, and consciousness. The authors of this topical volume have their background in logic, computer science, physics and mathematics, philosophy, psychology and

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neurobiology.

The book develops a general legal theory concerning the liability for offenses involving artificial intelligence systems. The involvement of the artificial intelligence systems in these offenses may be as perpetrators, accomplices or mere instruments. The general legal theory proposed in this book is based on the current criminal law in most modern legal systems. In most modern countries, unmanned vehicles, sophisticated surgical systems, industrial computing systems, trading algorithms and other artificial intelligence systems are commonly used for both industrial and personal purposes. The question of legal liability arises when something goes wrong, e.g. the unmanned vehicle is involved in a car accident, the surgical system is involved in a surgical error or the trading algorithm is involved in fraud, etc. Who is to be held liable for these offenses: the manufacturer, the programmer, the user, or, perhaps, the artificial intelligence system itself? The concept of liability for crimes involving artificial intelligence systems has not yet been widely researched. Advanced technologies are forcing society to face new challenges, both technical and legal. The idea of liability in the specific context of artificial intelligence systems is one such challenge that should be thoroughly explored.

Should a self-driving car prioritize the lives of the passengers over the lives of

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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. .

This outstanding collection is designed to address the fundamental issues and principles underlying the task of Artificial Intelligence.

Woodrow Barfield and Ugo Pagallo present a succinct introduction to the legal issues related to the design and use of artificial intelligence (AI). Exploring human rights, constitutional law, data protection, criminal law, tort law, and intellectual property law, they consider the laws of a number of jurisdictions including the US, the European Union, Japan, and China, making reference to case law and statutes.

Is your child interested in sci-fi, robots, or video games? Is your kid fascinated by smart home assistants and the prospect of self-driving cars? Time to turn that

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enthusiasm into action and engage with the exciting world of artificial intelligence! AI+Me is a series designed to introduce the 5 Big Ideas of Artificial Intelligence to young learners. Students take a deep dive into the Five Big Ideas of AI (Perception, Representation and Reasoning, Learning, Natural Interaction, and Societal Impact). This is the 3rd book in the AI+Me series focused on Learning. The series is recommended for K-2 students. Why should children be educated about AI? Learning AI opens up a world of opportunities. As the fastest growing area of computer science, AI will become the most important change force when our children grow up so it is critical they learn about it early. AI is fun! The field of AI started with scientists making computers learn to play games. AI is an incredibly fun way to introduce kids to programming and pique their interest in advanced topics like deep learning. Lastly, a topic like AI naturally opens up discussions about our humanity. In our curriculum, we dig deep into questions like “does AI positively or negatively impact society?” In doing so we aim to develop critical thinking skills and encourage students to reflect deeply. Benefits of AI education: - Gets children interested in #STEM education - Improves their problem-solving and critical-thinking skills - Builds their understanding of the tech tools that’ll shape their future - Starts important conversations about the future of humanity What are educators saying: “I really love these books. I think they are

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absolutely beautiful and very visually engaging ways for students to learn about artificial intelligence. I like how they progress through the topic and terms related to artificial intelligence and help students to attach meaning to what they are learning by the different examples and step-by-step ways that students build their understanding through the book.” - Rachele Dene Poth, Author of In Other Words, Unconventional, The Future is Now, and Chart a New Course. What are parents saying: “My 1st grader loves this book. She already is really interested in computers, but this book got her thinking about how we actually tell emotions. She started using her camera on her computer to record different expressions.” “My son learned ReadyAI courses before. I let his friend read AI+Me big idea 1. Surprisingly, both of them finished reading the book, with a lot of interest! I Will recommend this book for elementary school students.” “I have been looking for fun ways to introduce AI to my kid, and this definitely nailed it.”

Can we make machines that think and act like humans or other natural intelligent agents? The answer to this question depends on how we see ourselves and how we see the machines in question. Classical AI and cognitive science had claimed that cognition is computation, and can thus be reproduced on other computing machines, possibly surpassing the abilities of human intelligence. This consensus has now come under threat and the agenda for the philosophy and

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theory of AI must be set anew, re-defining the relation between AI and Cognitive Science. We can re-claim the original vision of general AI from the technical AI disciplines; we can reject classical cognitive science and replace it with a new theory (e.g. embodied); or we can try to find new ways to approach AI, for example from neuroscience or from systems theory. To do this, we must go back to the basic questions on computing, cognition and ethics for AI. The 30 papers in this volume provide cutting-edge work from leading researchers that define where we stand and where we should go from here.

Artificial intelligence (AI) describes machines/computers that mimic cognitive functions that humans associate with other human minds, such as learning and problem solving. As businesses have evolved to include more automation of processes, it has become more vital to understand AI and its various applications. Additionally, it is important for workers in the marketing industry to understand how to coincide with and utilize these techniques to enhance and make their work more efficient. The Handbook of Research on Applied AI for International Business and Marketing Applications is a critical scholarly publication that provides comprehensive research on artificial intelligence applications within the context of international business. Highlighting a wide range of topics such as diversification, risk management, and artificial intelligence, this book is ideal for marketers, business professionals, academicians, practitioners, researchers, and students.

The theory and practice of AI and ML in marketing saving time, money

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The idea of technological singularity, and what it would mean if ordinary human intelligence were enhanced or overtaken by artificial intelligence. The idea that human history is approaching a “singularity”—that ordinary humans will someday be overtaken by artificially intelligent machines or cognitively enhanced biological intelligence, or both—has moved from the realm of science fiction to serious debate. Some singularity theorists predict that if the field of artificial intelligence (AI) continues to develop at its current dizzying rate, the singularity could come about in the middle of the present century. Murray Shanahan offers an introduction to the idea of the singularity and considers the ramifications of such a potentially seismic event. Shanahan's aim is not to make predictions but rather to investigate a range of scenarios. Whether we believe that singularity is near or far, likely or impossible, apocalypse or utopia, the very idea raises crucial philosophical and pragmatic questions, forcing us to think seriously about what we want as a species. Shanahan describes technological advances in AI, both biologically inspired and engineered from scratch. Once human-level AI—theoretically possible, but difficult to accomplish—has been achieved, he explains, the transition to superintelligent AI could be very rapid. Shanahan considers what the existence of superintelligent machines could mean for such matters as personhood, responsibility, rights, and identity. Some superhuman AI agents might be created to benefit humankind; some might go rogue. (Is Siri the template, or HAL?) The singularity presents both an existential threat to humanity and an existential opportunity for humanity to transcend its limitations. Shanahan makes it clear that we need to imagine both possibilities if we want to bring about the better outcome.

Artificial intelligence (AI) is a field within computer science that is attempting to build enhanced intelligence into computer systems. This book traces the history of the subject, from the early

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dreams of eighteenth-century (and earlier) pioneers to the more successful work of today's AI engineers. AI is becoming more and more a part of everyone's life. The technology is already embedded in face-recognizing cameras, speech-recognition software, Internet search engines, and health-care robots, among other applications. The book's many diagrams and easy-to-understand descriptions of AI programs will help the casual reader gain an understanding of how these and other AI systems actually work. Its thorough (but unobtrusive) end-of-chapter notes containing citations to important source materials will be of great use to AI scholars and researchers. This book promises to be the definitive history of a field that has captivated the imaginations of scientists, philosophers, and writers for centuries.

Advances in artificial intelligence (AI) highlight the potential of this technology to affect productivity, growth, inequality, market power, innovation, and employment. This volume seeks to set the agenda for economic research on the impact of AI. It covers four broad themes: AI as a general purpose technology; the relationships between AI, growth, jobs, and inequality; regulatory responses to changes brought on by AI; and the effects of AI on the way economic research is conducted. It explores the economic influence of machine learning, the branch of computational statistics that has driven much of the recent excitement around AI, as well as the economic impact of robotics and automation and the potential economic consequences of a still-hypothetical artificial general intelligence. The volume provides frameworks for understanding the economic impact of AI and identifies a number of open research questions. Contributors: Daron Acemoglu, Massachusetts Institute of Technology Philippe Aghion, Collège de France Ajay Agrawal, University of Toronto Susan Athey, Stanford University James Bessen, Boston University School of Law Erik Brynjolfsson, MIT Sloan School of

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Creativity is one of the least understood aspects of intelligence and is often seen as 'intuitive' and not susceptible to rational enquiry. Recently, however, there has been a resurgence of interest in the area, principally in artificial intelligence and cognitive science, but also in

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psychology, philosophy, computer science, logic, mathematics, sociology, and architecture and design. This volume brings this work together and provides an overview of this rapidly developing field. It addresses a range of issues. Can computers be creative? Can they help us to understand human creativity? How can artificial intelligence (AI) enhance human creativity? How, in particular, can it contribute to the 'sciences of the artificial', such as design? Does the new wave of AI (connectionism, geneticism and artificial life) offer more promise in these areas than classical, symbol-handling AI? What would the implications be for AI and cognitive science if computers could not be creative? These issues are explored in five interrelated parts, each of which is introduced and explained by a leading figure in the field. - Prologue (Margaret Boden) - Part I: Foundational Issues (Terry Dartnall) - Part II: Creativity and Cognition (Graeme S. Halford and Robert Levinson) - Part III: Creativity and Connectionism (Chris Thornton) - Part IV: Creativity and Design (John Gero) - Part V: Human Creativity Enhancement (Ernest Edmonds) - Epilogue (Douglas Hofstadter) For researchers in AI, cognitive science, computer science, philosophy, psychology, mathematics, logic, sociology, and architecture and design; and anyone interested in the rapidly growing field of artificial intelligence and creativity.

Artificial Intelligence presents a practical guide to AI, including agents, machine learning and problem-solving simple and complex domains.

Artificial intelligence (AI) is on everybody's minds these days. Most of the world's leading companies are making massive investments in it. Governments are scrambling to catch up. Every single one of us who uses Google Search or any of the new digital assistants on our smartphones has witnessed first-hand how quickly these developments now go. Many analysts

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foresee truly disruptive changes in education, employment, health, knowledge generation, mobility, etc. But what will AI mean for defense and security? In a new study HCSS offers a unique perspective on this question. Most studies to date quickly jump from AI to autonomous (mostly weapon) systems. They anticipate future armed forces that mostly resemble today's armed forces, engaging in fairly similar types of activities with a still primarily industrial-kinetic capability bundle that would increasingly be AI-augmented. The authors of this study argue that AI may have a far more transformational impact on defense and security whereby new incarnations of 'armed force' start doing different things in novel ways. The report sketches a much broader option space within which defense and security organizations (DSOs) may wish to invest in successive generations of AI technologies. It suggests that some of the most promising investment opportunities to start generating the sustainable security effects that our polities, societies and economies expect may lie in the realms of prevention and resilience. Also in those areas any large-scale application of AI will have to result from a preliminary open-minded (on all sides) public debate on its legal, ethical and privacy implications. The authors submit, however, that such a debate would be more fruitful than the current heated discussions about 'killer drones' or robots. Finally, the study suggests that the advent of artificial super-intelligence (i.e. AI that is superior across the board to human intelligence), which many experts now put firmly within the longer-term planning horizons of our DSOs, presents us with unprecedented risks but also opportunities that we have to start to explore. The report contains an overview of the role that 'intelligence' - the computational part of the ability to achieve goals in the world - has played in defense and security throughout human history; a primer on AI (what it is, where it comes from and where it stands today - in both civilian and military

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contexts); a discussion of the broad option space for DSOs it opens up; 12 illustrative use cases across that option space; and a set of recommendations for - especially - small- and medium sized defense and security organizations.

In recent years a vast literature has been produced on the feasibility of Artificial Intelligence (AI). The topic most frequently discussed is the concept of intelligence, with efforts to demonstrate that it is or is not transferable to the computer. Only rarely has attention been focused on the concept of the artificial per se in order to clarify what kind, depth and scope of performance (including intelligence) it could support. Apart from the classic book by H.A. Simon, *The Sciences of the Artificial*, published in 1969, no serious attempt has been made to define a conceptual frame for understanding the intimate nature of intelligent machines independently of its claimed or denied human-like features. The general aim of this book is to discuss, from different points of view, what we are losing and what we are gaining from the artificial, particularly from AI, when we abandon the original anthropomorphic pretension. There is necessarily a need for analysis of the history of AI and the limits of its plausibility in reproducing the human mind. In addition, the papers presented here aim at redefining the epistemology and the possible targets of the AI discipline, raising problems, and proposing solutions, which should be understood as typical of the artificial rather than of an information-based conception of man.

*The Future of Copyright in the Age of Artificial Intelligence* offers an extensive analysis of intellectual property and authorship theories and explores the possible impact artificial intelligence (AI) might have on those theories. The author makes compelling arguments via the exploration of authorship, ownership and artificial intelligence.

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These are the proceedings of a symposium on artificial intelligence in higher education held in Prague in October 1989. Papers describe sophisticated tutoring systems and suggestions for new curricula.

"Machines who think—how utterly preposterous," huff beleaguered humanists, defending their dwindling turf. "Artificial Intelligence—it's here and about to surpass our own," crow techno-visionaries, proclaiming dominion. It's so simple and obvious, each side maintains, only a fanatic could disagree. Deciding where the truth lies between these two extremes is the main purpose of John Haugeland's marvelously lucid and witty book on what artificial intelligence is all about. Although presented entirely in non-technical terms, it neither oversimplifies the science nor evades the fundamental philosophical issues. Far from ducking the really hard questions, it takes them on, one by one. Artificial intelligence, Haugeland notes, is based on a very good idea, which might well be right, and just as well might not. That idea, the idea that human thinking and machine computing are "radically the same," provides the central theme for his illuminating and provocative book about this exciting new field. After a brief but revealing digression in intellectual history, Haugeland systematically tackles such basic questions as: What is a computer really? How can a physical object "mean" anything? What are the options for computational organization? and What structures have been proposed and tried as actual scientific models for intelligence? In a concluding chapter he takes up several outstanding problems and puzzles—including intelligence in action, imagery, feelings and personality—and their enigmatic prospects for solution.

Knowing our World: An Artificial Intelligence Perspective considers the methodologies of science, computation, and artificial intelligence to explore how we humans come to understand

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and operate in our world. While humankind's history of articulating ideas and building machines that can replicate the activity of the human brain is impressive, Professor Luger focuses on understanding the skills that enable these goals. Based on insights afforded by the challenges of AI design and program building, *Knowing our World* proposes a foundation for the science of epistemology. Taking an interdisciplinary perspective, the book demonstrates that AI technology offers many representational structures and reasoning strategies that support clarification of these epistemic foundations. This monograph is organized in three Parts; the first three chapters introduce the reader to the foundations of computing and the philosophical background that supports the AI tradition. These three chapters describe the origins of AI, programming as iterative refinement, and the representations and very high-level language tools that support AI application building. The book's second Part introduces three of the four paradigms that represent research and development in AI over the past seventy years: the symbol-based, connectionist, and complex adaptive systems. Luger presents several introductory programs in each area and demonstrates their use. The final three chapters present the primary theme of the book: bringing together the rationalist, empiricist, and pragmatist philosophical traditions in the context of a Bayesian world view. Luger describes Bayes' theorem with a simple proof to demonstrate epistemic insights. He describes research in model building and refinement and several philosophical issues that constrain the future growth of AI. The book concludes with his proposal of the epistemic stance of an active, pragmatic, model-revising realism.

Dealing with the theme of prospects for artificial intelligence as the general science of intelligence, this work covers a wide range of topics. It attempts to identify trends and projects

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into the future, instead of simply surveying past achievements.

Artificial Intelligence Illuminated presents an overview of the background and history of artificial intelligence, emphasizing its importance in today's society and potential for the future. The book covers a range of AI techniques, algorithms, and methodologies, including game playing, intelligent agents, machine learning, genetic algorithms, and Artificial Life. Material is presented in a lively and accessible manner and the author focuses on explaining how AI techniques relate to and are derived from natural systems, such as the human brain and evolution, and explaining how the artificial equivalents are used in the real world. Each chapter includes student exercises and review questions, and a detailed glossary at the end of the book defines important terms and concepts highlighted throughout the text.

This book constitutes the refereed proceedings of the 10th Congress of the Italian Association for Artificial Intelligence, AI\*IA 2007, held in Rome, Italy, in September 2007. The 42 revised full papers presented together with 14 revised poster papers and 3 invited talks were carefully reviewed and selected from 80 submissions. The papers are organized in topical sections on knowledge representation and reasoning, multiagent systems, distributed AI, knowledge engineering, ontologies and the semantic Web, machine learning, natural language processing, information retrieval and extraction, planning and scheduling, AI and applications. Three special tracks depicting progresses in significant application fields that represent increasingly relevant topics contain 18 additional papers on AI and robotics, AI and expressive media, and intelligent access to multimedia information.

This is a completely revised and updated edition of this text designed to introduce students to the historical, intellectual and social context of computers. Although the majority of the

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chapters in this edition are new, the original criteria for selecting essays has been retained. The text retains the historical pieces and adds new material on artificial intelligence, the human-computer interface, the intellectual importance of computing, and the social impact of computer technology.

The book introduces key Artificial Intelligence (AI) concepts in an easy-to-read format with examples and illustrations. Someone with basic knowledge in Computer Science can have a quick overview of AI heuristic searches, genetic algorithms, expert systems, game trees, fuzzy expert systems, natural language processing, superintelligence, etc. with everyday examples. The second edition includes more in-depth technical content and covers recent topics in AI. An argument that—despite dramatic advances in the field—artificial intelligence is nowhere near developing systems that are genuinely intelligent. In this provocative book, Brian Cantwell Smith argues that artificial intelligence is nowhere near developing systems that are genuinely intelligent. Second wave AI, machine learning, even visions of third-wave AI: none will lead to human-level intelligence and judgment, which have been honed over millennia. Recent advances in AI may be of epochal significance, but human intelligence is of a different order than even the most powerful calculative ability enabled by new computational capacities. Smith calls this AI ability “reckoning,” and argues that it does not lead to full human judgment—dispassionate, deliberative thought grounded in ethical commitment and responsible action. Taking judgment as the ultimate goal of intelligence, Smith examines the history of AI from its first-wave origins (“good old-fashioned AI,” or GOFAI) to such celebrated second-wave approaches as machine learning, paying particular attention to recent advances that have led to excitement, anxiety, and debate. He considers each AI technology's underlying

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assumptions, the conceptions of intelligence targeted at each stage, and the successes achieved so far. Smith unpacks the notion of intelligence itself—what sort humans have, and what sort AI aims at. Smith worries that, impressed by AI's reckoning prowess, we will shift our expectations of human intelligence. What we should do, he argues, is learn to use AI for the reckoning tasks at which it excels while we strengthen our commitment to judgment, ethics, and the world.

While assuming no prior knowledge of AI or logic, this book provides a clear and readable introduction to many of the most advanced developments in AI, as well as giving examples of their usage and critically assessing their applicability and effectiveness. Topics covered include planning, logic and inference, non-monotonic logic, reason maintenance, memory organization, probabilistic reasoning, induction and neural networks. By concentrating on inference as a central theme, the author is able to present material more sophisticated than that covered by other university textbooks in the subject. The book will therefore be particularly suitable for advanced undergraduate and graduate courses in AI.

Since its publication, *Essentials of Artificial Intelligence* has been adopted at numerous universities and colleges offering introductory AI courses at the graduate and undergraduate levels. Based on the author's course at Stanford University, the book is an integrated, cohesive introduction to the field. The author has a fresh, entertaining writing style that combines clear presentations with humor and AI anecdotes. At the same time, as an active AI researcher, he presents the material authoritatively and with insight that reflects a contemporary, first hand understanding of the field. Pedagogically designed, this book offers a range of exercises and examples.

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How can the human mind represent the external world? What is thought, and can it be studied scientifically? Should we think of the mind as a kind of machine? Is the mind a computer? Can a computer think? Tim Crane sets out to answer these questions and more in a lively and straightforward way, presuming no prior knowledge of philosophy or related disciplines. Since its first publication, *The Mechanical Mind* has introduced thousands of people to some of the most important ideas in contemporary philosophy of mind. Crane explains the fundamental ideas that cut across philosophy of mind, artificial intelligence and cognitive science: what the mind-body problem is; what a computer is and how it works; what thoughts are and how computers and minds might have them. He examines different theories of the mind from dualist to eliminativist, and questions whether there can be thought without language and whether the mind is subject to the same causal laws as natural phenomena. The result is a fascinating exploration of the theories and arguments surrounding the notions of thought and representation. This third edition has been fully revised and updated, and includes a wholly new chapter on externalism about mental content and the extended and embodied mind. There is a stronger emphasis on the environmental and bodily context in which thought occurs. Many chapters have been reorganised to make the reader's passage through the book easier. The book now contains a much more detailed guide to further reading, and the chronology and the glossary of technical terms have also been updated. *The Mechanical Mind* is accessible to anyone interested in the mechanisms of our minds, and essential reading for those studying philosophy of mind, philosophy of psychology, or cognitive psychology. This book addresses the role of public policy in regulating the autonomous artificial intelligence and related civil liability for damage caused by the robots (and any form of artificial

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intelligence). It is a very timely book, focusing on the consequences of judgment proofness of autonomous decision-making on tort law, risk and safety regulation, and the incentives stemming from these. This book is extremely important as regulatory endeavours concerning AI are in their infancy at most, whereas the industry's development is continuing in a strong way. It is an important scientific contribution that will bring scientific objectivity to a, to date, very one-sided academic treatment of legal scholarship on AI.

Artificial Intelligence and Human Institutions argues that successful applications of artificial intelligence are possible only within an understanding of human institutions and the limitations of technology. Products of artificial intelligence research are becoming widely available to non-specialists using low-cost computer systems, but there has been a lack of communication between researchers and community groups. Taking the "weak AI" position, the book explores the way insights and tools from artificial intelligence can be valuable in coming to terms with real world problems. Drawing on the author's extensive practical experience in AI research and research management, the book brings together case studies from the fields of education, training, business, engineering, defence, health, and community work, and suggests future directions. This book deals with advanced concepts of artificial intelligence for non-specialist readers, while providing an introduction to state-of-the-art developments. It seeks to use AI concepts to illuminate the practical and theoretical concerns of institutions and organisations, opening up possibilities for new areas of collaborative work, and revealing new sources of references and ideas. This is the latest title in the Artificial Intelligence and Society series and will be of interest to lecturers and students in AI, education, social and political sciences, and business studies.



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subjected to vigorous debate in the justifiable expectation that - here as elsewhere - critical inquiry provides the most promising path to discovering the truth about ourselves and the world around us. I.H.F.

Since the 1970s the cognitive sciences have offered multidisciplinary ways of understanding the mind and cognition. The MIT Encyclopedia of the Cognitive Sciences (MITECS) is a landmark, comprehensive reference work that represents the methodological and theoretical diversity of this changing field. At the core of the encyclopedia are 471 concise entries, from Acquisition and Adaptationism to Wundt and X-bar Theory. Each article, written by a leading researcher in the field, provides an accessible introduction to an important concept in the cognitive sciences, as well as references or further readings. Six extended essays, which collectively serve as a roadmap to the articles, provide overviews of each of six major areas of cognitive science: Philosophy; Psychology; Neurosciences; Computational Intelligence; Linguistics and Language; and Culture, Cognition, and Evolution. For both students and researchers, MITECS will be an indispensable guide to the current state of the cognitive sciences.

Machines and computers are becoming increasingly sophisticated and self-sustaining. As we integrate such technologies into our daily lives, questions concerning moral integrity and best practices arise. A changing world requires renegotiating our current set of standards. Without best practices to guide interaction and use with these

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complex machines, interaction with them will turn disastrous. Machine Law, Ethics, and Morality in the Age of Artificial Intelligence is a collection of innovative research that presents holistic and transdisciplinary approaches to the field of machine ethics and morality and offers up-to-date and state-of-the-art perspectives on the advancement of definitions, terms, policies, philosophies, and relevant determinants related to human-machine ethics. The book encompasses theory and practice sections for each topical component of important areas of human-machine ethics both in existence today and prospective for the future. While highlighting a broad range of topics including facial recognition, health and medicine, and privacy and security, this book is ideally designed for ethicists, philosophers, scientists, lawyers, politicians, government lawmakers, researchers, academicians, and students. It is of special interest to decision- and policy-makers concerned with the identification and adoption of human-machine ethics initiatives, leading to needed policy adoption and reform for human-machine entities, their technologies, and their societal and legal obligations.

This book constitutes the refereed proceedings of the 10th Australian Joint Conference on Artificial Intelligence, AI'97, held in Perth, Australia, in November/December 1997. The volume presents 48 revised full papers selected from a total of 143 submissions. Also included are three keynote talks and one invited paper. The book is divided into topical sections on constraint satisfaction and scheduling, computer vision, distributed AI, evolutionary computing, knowledge-based systems, knowledge representation and

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reasoning, learning and machine vision, machine learning, NLP and user modeling, neural networks, robotics and machine recognition, and temporal qualitative reasoning.

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