

Advise Adaptive Video Streaming Evaluation Framework For

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[Library & Information Science Abstracts](#) - 2007

Bulletin of the Atomic Scientists - 1963-11

The Bulletin of the Atomic Scientists is the premier public resource on scientific and technological developments that impact global security. Founded by Manhattan Project Scientists, the Bulletin's iconic "Doomsday Clock" stimulates solutions for a safer world.

Catching Ourselves in the Act - Horst Hendriks-Jansen 1996

Catching Ourselves in the Act uses situated robotics, ethology, and developmental psychology to erect a new framework for explaining human behavior. Rejecting the cognitive science orthodoxy that formal task-descriptions and their implementation are fundamental to an explanation of mind, Horst Hendriks-Jansen argues for an alternative model based on the notion of interactive emergence. Situated activity and interactive emergence are concepts that derive from the new discipline of autonomous agent research. Hendriks-Jansen puts these notions on a firm philosophical basis and uses them to anchor a "genetic" or "historical" explanation of mental phenomena in species-typical activity patterns that have been selected by a cultural environment of artifacts, language, and intentional scaffolding by adults. Situated robotics, allied with techniques and principles from ethology, allows the testing of hypotheses framed in terms of natural kinds that can be grounded through the theory of natural selection. This approach negotiates the "nature versus nurture" dispute in a radically new way. Catching Ourselves in the Act provides a thorough overview of autonomous agent research in America and Europe, focusing in particular on work by such eminent researchers as Rodney Brooks, Pattie Maes, Maja Mataric, and Rolf Pfeifer. It reassesses the basic principles of artificial life and explores the repercussions of autonomous agent research for human psychology and the philosophy of mind, as well as its affinities with the "contextual revolution" in sociology and anthropology. A Bradford Book. Complex Adaptive Systems

Facilitating Evaluation - Michael Quinn Patton 2017-10-23

Michael Quinn Patton's *Facilitating Evaluation: Principles in Practice* is the first book of its kind to explain in depth and detail how to facilitate evaluation processes with stakeholders. Using the author's own stories of his experiences as an evaluation facilitator, the book illustrates the five evaluation facilitation principles that are the organizing framework for addressing how to work with stakeholders to generate evaluation questions, make decisions among methods, interpret findings, and participate in all aspects of evaluation. Ultimately, this book will help readers perform facilitation to enhance the relevance, credibility, meaningfulness, and utility of evaluations. "A must-read for anyone considering a high-impact evaluation!" -Margaret Lombe, Boston College

OECD Reviews of Evaluation and Assessment in Education Synergies for Better Learning An International Perspective on Evaluation and Assessment - OECD 2013-04-11

This report provides an international comparative analysis and policy advice to countries on how evaluation and assessment arrangements can be embedded within a consistent framework to improve the quality, equity and efficiency of school education.

Industrial Intelligent Control - Yong-Zai Lu 1996-05-01

With a strong emphasis on applications of intelligent control, this extremely accessible book covers the

fundamentals, methodologies, architectures and algorithms of automatic control systems. The author summarizes several current concepts to improve industrial control systems, combining classical control techniques of dynamic modeling and control with new approaches discussed in the text. Addresses such intelligent systems as neural networks, fuzzy logic, ruled based, and genetic algorithms. Demonstrates how to develop, design and use intelligent systems to solve sophisticated industrial control problems. Includes numerous worked application examples.

Neuroeconomics - Peter Politser 2008-03-12

An introduction to the burgeoning field of neuroeconomics, this book brings together the essential concepts the discipline draws on from psychology, neuroscience and economics.

Sustainability - Bryan G. Norton 2005-11

While many disciplines contribute to environmental conservation, there is little successful integration of science and social values. Arguing that the central problem in conservation is a lack of effective communication, Bryan Norton shows in *Sustainability* how current linguistic resources discourage any shared, multidisciplinary public deliberation over environmental goals and policy. In response, Norton develops a new, interdisciplinary approach to defining sustainability—the cornerstone of environmental policy—using philosophical and linguistic analyses to create a nonideological vocabulary that can accommodate scientific and evaluative environmental discourse. Emphasizing cooperation and adaptation through social learning, Norton provides a practical framework that encourages an experimental approach to language clarification and problem formulation, as well as an interdisciplinary approach to creating solutions. By moving beyond the scientific arena to acknowledge the importance of public discourse, *Sustainability* offers an entirely novel approach to environmentalism.

Quality of Experience - Sebastian Möller 2014-07-08

This pioneering book develops definitions and concepts related to Quality of Experience in the context of multimedia- and telecommunications-related applications, systems and services and applies these to various fields of communication and media technologies. The editors bring together numerous key-protagonists of the new discipline "Quality of Experience" and combine the state-of-the-art knowledge in one single volume.

Evaluation in Health Promotion - Irving Rootman 2001

This book is the result of the WHO European Working Group on Health Promotion Evaluation which examined the current range of qualitative and quantitative evaluation methods to provide guidance to policy-makers and practitioners. It includes an extensive c

National Education Technology Plan - Arthur P. Hershaft 2011

Education is the key to America's economic growth and prosperity and to our ability to compete in the global economy. It is the path to higher earning power for Americans and is necessary for our democracy to work. It fosters the cross-border, cross-cultural collaboration required to solve the most challenging problems of our time. The National Education Technology Plan 2010 calls for revolutionary transformation. Specifically, we must embrace innovation and technology which is at the core of virtually every aspect of our daily lives and work. This book explores the National Education Technology Plan which presents a model of learning powered by technology, with goals and recommendations in five essential areas: learning,

assessment, teaching, infrastructure and productivity.

Proceedings - 1999

How People Learn II - National Academies of Sciences, Engineering, and Medicine 2018-09-27

There are many reasons to be curious about the way people learn, and the past several decades have seen an explosion of research that has important implications for individual learning, schooling, workforce training, and policy. In 2000, *How People Learn: Brain, Mind, Experience, and School: Expanded Edition* was published and its influence has been wide and deep. The report summarized insights on the nature of learning in school-aged children; described principles for the design of effective learning environments; and provided examples of how that could be implemented in the classroom. Since then, researchers have continued to investigate the nature of learning and have generated new findings related to the neurological processes involved in learning, individual and cultural variability related to learning, and educational technologies. In addition to expanding scientific understanding of the mechanisms of learning and how the brain adapts throughout the lifespan, there have been important discoveries about influences on learning, particularly sociocultural factors and the structure of learning environments. *How People Learn II: Learners, Contexts, and Cultures* provides a much-needed update incorporating insights gained from this research over the past decade. The book expands on the foundation laid out in the 2000 report and takes an in-depth look at the constellation of influences that affect individual learning. *How People Learn II* will become an indispensable resource to understand learning throughout the lifespan for educators of students and adults.

[New Orleans Supercomm/ICC '94](#) - IEEE Communications Society 1994

Issues and trends in education for sustainable development - Leicht, Alexander 2018-02-19

Education for Sustainable Development (ESD) is globally acknowledged as a powerful driver of change, empowering learners to make decisions and take actions needed to build a just and economically viable society respectful of both the environment and cultural diversity.

Guide for All-Hazard Emergency Operations Planning - Kay C. Goss 1998-05

Meant to aid State & local emergency managers in their efforts to develop & maintain a viable all-hazard emergency operations plan. This guide clarifies the preparedness, response, & short-term recovery planning elements that warrant inclusion in emergency operations plans. It offers the best judgment & recommendations on how to deal with the entire planning process -- from forming a planning team to writing the plan. Specific topics of discussion include: preliminary considerations, the planning process, emergency operations plan format, basic plan content, functional annex content, hazard-unique planning, & linking Federal & State operations.

Validating VoLTE - James Rankin 2013-08-07

This book outlines a VoLTE (Voice over Long Term Evolution) test plan that ensures a correct, stable, and effective VoLTE deployment. These scenarios cover major functional and characterization requirements of a VoLTE network. Each test provides a description, test steps, and expected results. The test plan provides significant benefits when executed before deployment, and also as part of an ongoing regression environment as network elements are upgraded and expanded over the network lifetime. This book is a collection of input gathered from our work with leading equipment vendors and mobile operators globally.

Adaptive Spatial Alignment - Gordon M. Redding 1997-01

For most people, prism adaptation is an amusing demonstration, first experienced perhaps in an introductory psychology course. This monograph relates this peculiar phenomenon to the larger context of cognitive science, especially motor control and learning. The first part sketches the background concepts necessary to understand the contribution of prism adaptation to the larger issue of adaptive perceptual-motor performance including: * a review of the basic concepts of motor control and learning that enable strategic response in the prism adaptation situation; * the development of a hypothesis about spatial representation and spatial mapping and an introduction to the basic idea of adaptive spatial alignment; and * a contrasting view of perceptual and motor learning and a review of evidence for the involvement of nonassociative and associative learning in prism adaptation. Directly concerned with data and theory in

prism adaptation, the second part presents: * an outline of prism adaptation methodology and a list of several empirical conclusions from previous research that constrained development of theoretical framework; * a theory of strategic perceptual-motor control and learning which enables adaptive performance during prism exposure, but does not directly involve adaptive spatial alignment; * an extension of the theory to include realignment processes which correct for the spatial misalignment among sensorimotor systems produced by prisms; and * a demonstration of how traditional issues in prism adaptation may be rephrased in terms of the present theoretical framework. The last part of this volume reviews the research conducted in developing and testing the present theory of prism adaptation. It summarizes the initial investigations (employing a naturalistic exposure setting), reports some more rigorous tests with an experimentally constrained research paradigm, points out the more general theoretical issues raised by the authors' analysis of prism adaptation, and makes specific suggestions for further research within the prism adaptation paradigm.

[The Process Approach to Personality](#) - Gudmund J.W. Smith 2001-09-30

This book presents the construct of perceptogenesis, a psychodynamic theory pioneered by the author that explains reality as constructed from within by means of hidden but retraceable microprocesses under constraints imposed by outside stimuli. Supported by a process-oriented theoretical framework, the approach is clinically relevant to such fields as personnel selection, creativity, development, psychosomatics, and psychopathology.

A Theory of Adaptive Economic Behavior - John G. Cross 1983-11-25

This book develops dynamic economic models using the perspective and analytic framework provided by psychological learning theory. This framework is used to resolve apparent contradictions between optimization theory, which lies at the heart of all modern economic theory, and day-to-day evidence that short-run economic behaviour cannot reasonably be described solely as the outcome of efficiently implemented self-interest. The author applies this viewpoint to a number of problem areas in which literal applications of maximization theory have not usually proved to be satisfactory. These include analyses of decision-making under uncertainty and gambling behaviour, the role of consumer-oriented advertising in influencing behaviour, the persistence of price dispersions in markets, and inflation.

[MMSys'18](#) - Pablo Cesar 2018-06-12

MMSys'18: Multimedia Systems Conference 2018 Jun 12, 2018-Jun 15, 2018 Amsterdam, Netherlands. You can view more information about this proceeding and all of ACM's other published conference proceedings from the ACM Digital Library: <http://www.acm.org/dl>.

The H.264 Advanced Video Compression Standard - Iain E. Richardson 2011-08-24

H.264 Advanced Video Coding or MPEG-4 Part 10 is fundamental to a growing range of markets such as high definition broadcasting, internet video sharing, mobile video and digital surveillance. This book reflects the growing importance and implementation of H.264 video technology. Offering a detailed overview of the system, it explains the syntax, tools and features of H.264 and equips readers with practical advice on how to get the most out of the standard. Packed with clear examples and illustrations to explain H.264 technology in an accessible and practical way. Covers basic video coding concepts, video formats and visual quality. Explains how to measure and optimise the performance of H.264 and how to balance bitrate, computation and video quality. Analyses recent work on scalable and multi-view versions of H.264, case studies of H.264 codecs and new technological developments such as the popular High Profile extensions. An invaluable companion for developers, broadcasters, system integrators, academics and students who want to master this burgeoning state-of-the-art technology. "[This book] unravels the mysteries behind the latest H.264 standard and delves deeper into each of the operations in the codec. The reader can implement (simulate, design, evaluate, optimize) the codec with all profiles and levels. The book ends with extensions and directions (such as SVC and MVC) for further research." Professor K. R. Rao, The University of Texas at Arlington, co-inventor of the Discrete Cosine Transform

[Globalization of Management Education](#) - AACSB International 2011-02-09

In this comprehensive report, the AACSB Task Force explores broad globalization trends in management education that command the attention of any individual or institution striving to navigate in today's environment.

Intelligent Image and Video Compression - Fan Zhang 2021-04-07

Intelligent Image and Video Compression: Communicating Pictures, Second Edition explains the requirements, analysis, design and application of a modern video coding system. It draws on the authors' extensive academic and professional experience in this field to deliver a text that is algorithmically rigorous yet accessible, relevant to modern standards and practical. It builds on a thorough grounding in mathematical foundations and visual perception to demonstrate how modern image and video compression methods can be designed to meet the rate-quality performance levels demanded by today's applications and users, in the context of prevailing network constraints. "David Bull and Fan Zhang have written a timely and accessible book on the topic of image and video compression. Compression of visual signals is one of the great technological achievements of modern times, and has made possible the great successes of streaming and social media and digital cinema. Their book, Intelligent Image and Video Compression covers all the salient topics ranging over visual perception, information theory, bandpass transform theory, motion estimation and prediction, lossy and lossless compression, and of course the compression standards from MPEG (ranging from H.261 through the most modern H.266, or VVC) and the open standards VP9 and AV-1. The book is replete with clear explanations and figures, including color where appropriate, making it quite accessible and valuable to the advanced student as well as the expert practitioner. The book offers an excellent glossary and as a bonus, a set of tutorial problems. Highly recommended! --Al Bovik An approach that combines algorithmic rigor with practical implementation using numerous worked examples Explains how video compression methods exploit statistical redundancies, natural correlations, and knowledge of human perception to improve performance Uses contemporary video coding standards (AVC, HEVC and VVC) as a vehicle for explaining block-based compression Provides broad coverage of important topics such as visual quality assessment and video streaming

Adaptive Governance - Ronald D. Brunner 2005

Drawing on five detailed case studies from the American West, the authors explore and clarify how to expedite a transition toward adaptive governance and break the gridlock in natural resource policymaking. Unlike scientific management, which relies on science as the foundation for policies made through a central bureaucratic authority, adaptive governance integrates various types of knowledge and organizations. Adaptive governance relies on open decision-making processes recognizing multiple interests, community-based initiatives, and an integrative science in addition to traditional science. Case studies discussed include a program to protect endangered fish in the Colorado River with the active participation of water developers and environmentalists; a district ranger's innovative plan to manage national forestland in northern New Mexico; and how community-based forestry groups are affecting legislative change in Washington, D.C.

Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation -

Christopher B. Field 2012-05-28

This Intergovernmental Panel on Climate Change Special Report (IPCC-SREX) explores the challenge of understanding and managing the risks of climate extremes to advance climate change adaptation. Extreme weather and climate events, interacting with exposed and vulnerable human and natural systems, can lead to disasters. Changes in the frequency and severity of the physical events affect disaster risk, but so do the spatially diverse and temporally dynamic patterns of exposure and vulnerability. Some types of extreme weather and climate events have increased in frequency or magnitude, but populations and assets at risk have also increased, with consequences for disaster risk. Opportunities for managing risks of weather- and climate-related disasters exist or can be developed at any scale, local to international. Prepared following strict IPCC procedures, SREX is an invaluable assessment for anyone interested in climate extremes, environmental disasters and adaptation to climate change, including policymakers, the private sector and academic researchers.

Music Information Retrieval - Markus Schedl 2014

Music Information Retrieval: Recent Developments and Applications surveys the young but established field of research that is Music Information Retrieval (MIR). In doing so, it pays particular attention to the latest developments in MIR, such as semantic auto-tagging and user-centric retrieval and recommendation approaches. Music Information Retrieval: Recent Developments and Applications starts by reviewing the

well-established and proven methods for feature extraction and music indexing, from both the audio signal and contextual data sources about music items, such as web pages or collaborative tags. These in turn enable a wide variety of music retrieval tasks, such as semantic music search or music identification ("query by example"). Subsequently, it elaborates on the current work on user analysis and modeling in the context of music recommendation and retrieval, addressing the recent trend towards user-centric and adaptive approaches and systems. A discussion follows about the important aspect of how various MIR approaches to different problems are evaluated and compared. It concludes with a discussion about the major open challenges facing MIR.

Your Strategy Needs a Strategy - Martin Reeves 2015-05-19

You think you have a winning strategy. But do you? Executives are bombarded with bestselling ideas and best practices for achieving competitive advantage, but many of these ideas and practices contradict each other. Should you aim to be big or fast? Should you create a blue ocean, be adaptive, play to win—or forget about a sustainable competitive advantage altogether? In a business environment that is changing faster and becoming more uncertain and complex almost by the day, it's never been more important—or more difficult—to choose the right approach to strategy. In this book, The Boston Consulting Group's Martin Reeves, Knut Haanæs, and Janmejaya Sinha offer a proven method to determine the strategy approach that is best for your company. They start by helping you assess your business environment—how unpredictable it is, how much power you have to change it, and how harsh it is—a critical component of getting strategy right. They show how existing strategy approaches sort into five categories—Be Big, Be Fast, Be First, Be the Orchestrator, or simply Be Viable—depending on the extent of predictability, malleability, and harshness. In-depth explanations of each of these approaches will provide critical insight to help you match your approach to strategy to your environment, determine when and how to execute each one, and avoid a potentially fatal mismatch. Addressing your most pressing strategic challenges, you'll be able to answer questions such as: • What replaces planning when the annual cycle is obsolete? • When can we—and when should we—shape the game to our advantage? • How do we simultaneously implement different strategic approaches for different business units? • How do we manage the inherent contradictions in formulating and executing different strategies across multiple businesses and geographies? Until now, no book brings it all together and offers a practical tool for understanding which strategic approach to apply. Get started today.

Transforming the Workforce for Children Birth Through Age 8 - National Research Council 2015-07-23

Children are already learning at birth, and they develop and learn at a rapid pace in their early years. This provides a critical foundation for lifelong progress, and the adults who provide for the care and the education of young children bear a great responsibility for their health, development, and learning. Despite the fact that they share the same objective - to nurture young children and secure their future success - the various practitioners who contribute to the care and the education of children from birth through age 8 are not acknowledged as a workforce unified by the common knowledge and competencies needed to do their jobs well. Transforming the Workforce for Children Birth Through Age 8 explores the science of child development, particularly looking at implications for the professionals who work with children. This report examines the current capacities and practices of the workforce, the settings in which they work, the policies and infrastructure that set qualifications and provide professional learning, and the government agencies and other funders who support and oversee these systems. This book then makes recommendations to improve the quality of professional practice and the practice environment for care and education professionals. These detailed recommendations create a blueprint for action that builds on a unifying foundation of child development and early learning, shared knowledge and competencies for care and education professionals, and principles for effective professional learning. Young children thrive and learn best when they have secure, positive relationships with adults who are knowledgeable about how to support their development and learning and are responsive to their individual progress. Transforming the Workforce for Children Birth Through Age 8 offers guidance on system changes to improve the quality of professional practice, specific actions to improve professional learning systems and workforce development, and research to continue to build the knowledge base in ways that will directly advance and inform future actions. The recommendations of this book provide an opportunity to improve the quality of

the care and the education that children receive, and ultimately improve outcomes for children.

Strengthening Forensic Science in the United States - National Research Council 2009-07-29

Scores of talented and dedicated people serve the forensic science community, performing vitally important work. However, they are often constrained by lack of adequate resources, sound policies, and national support. It is clear that change and advancements, both systematic and scientific, are needed in a number of forensic science disciplines to ensure the reliability of work, establish enforceable standards, and promote best practices with consistent application. *Strengthening Forensic Science in the United States: A Path Forward* provides a detailed plan for addressing these needs and suggests the creation of a new government entity, the National Institute of Forensic Science, to establish and enforce standards within the forensic science community. The benefits of improving and regulating the forensic science disciplines are clear: assisting law enforcement officials, enhancing homeland security, and reducing the risk of wrongful conviction and exoneration. *Strengthening Forensic Science in the United States* gives a full account of what is needed to advance the forensic science disciplines, including upgrading of systems and organizational structures, better training, widespread adoption of uniform and enforceable best practices, and mandatory certification and accreditation programs. While this book provides an essential call-to-action for congress and policy makers, it also serves as a vital tool for law enforcement agencies, criminal prosecutors and attorneys, and forensic science educators.

Occupational Therapy Practice Framework - American Occupational Therapy Association 2008-01-01

The Framework, an official AOTA document, presents a summary of interrelated constructs that define and guide occupational therapy practice. The Framework was developed to articulate occupational therapy's contribution to promoting the health and participation of people, organizations, and populations through engagement in occupation. The revisions included in this second edition are intended to refine the document and include language and concepts relevant to current and emerging occupational therapy practice. Implicit within this summary are the profession's core beliefs in the positive relationship between occupation and health and its view of people as occupational beings. Numerous resource materials include a glossary, references and a bibliography, as well as a table of changes between the editions.

Proceedings of the International Conference on Multimedia Computing and Systems - 1999

The Future of Nursing - Institute of Medicine 2011-02-08

The Future of Nursing explores how nurses' roles, responsibilities, and education should change significantly to meet the increased demand for care that will be created by health care reform and to advance improvements in America's increasingly complex health system. At more than 3 million in number, nurses make up the single largest segment of the health care work force. They also spend the greatest amount of time in delivering patient care as a profession. Nurses therefore have valuable insights and unique abilities to contribute as partners with other health care professionals in improving the quality and safety of care as envisioned in the Affordable Care Act (ACA) enacted this year. Nurses should be fully engaged with other health professionals and assume leadership roles in redesigning care in the United States. To ensure its members are well-prepared, the profession should institute residency training for nurses, increase the percentage of nurses who attain a bachelor's degree to 80 percent by 2020, and double the number who pursue doctorates. Furthermore, regulatory and institutional obstacles -- including limits on nurses' scope of practice -- should be removed so that the health system can reap the full benefit of nurses' training, skills, and knowledge in patient care. In this book, the Institute of Medicine makes recommendations for an action-oriented blueprint for the future of nursing.

PISA 2018 Assessment and Analytical Framework - OECD 2019-04-26

This report presents the conceptual foundations of the OECD Programme for International Student Assessment (PISA), now in its seventh cycle of comprehensive and rigorous international surveys of student knowledge, skills and well-being. Like previous cycles, the 2018 assessment covered reading, mathematics and science, with the major focus this cycle on reading literacy, plus an evaluation of students' global competence -- their ability to understand and appreciate the perspectives and world views of others. Financial literacy was also offered as an optional assessment.

Qualities of Effective Principals - James H. Stronge 2021-04-28

This book shows principals how to successfully balance the needs and priorities of their schools while continuously developing and refining their leadership skills.

Distance Education for Teacher Training - Hilary Perraton 2002-03-11

First published in 2002. Routledge is an imprint of Taylor & Francis, an informa company.

Ten Steps to a Results-Based Monitoring and Evaluation System - Jody Zall Kusek 2004-06-15

This Handbook provides a comprehensive ten-step model that will help guide development practitioners through the process of designing and building a results-based monitoring and evaluation system.

Insights Into Mobile Multimedia Communications - D. R. Bull 1999

Describes the state-of-the-art in digital multimedia communications. This text presents an integrated view of advanced radio systems, network architectures and source coding.

Introduction to Educational Research - W. Newton Suter 2012

"Introduction to Educational Research: A Critical Thinking Approach 2e is an engaging and informative core text that enables students to think clearly and critically about the scientific process of research. In achieving its goal to make research accessible to all educators and equip them with the skills to understand and evaluate published research, the text examines how educational research is conducted across the major traditions of quantitative, qualitative, mixed methods, and action research. The text is oriented toward consumers of educational research and uses a thinking-skills approach to its coverage of major ideas"--

Reinforcement Learning, second edition - Richard S. Sutton 2018-11-13

The significantly expanded and updated new edition of a widely used text on reinforcement learning, one of the most active research areas in artificial intelligence. Reinforcement learning, one of the most active research areas in artificial intelligence, is a computational approach to learning whereby an agent tries to maximize the total amount of reward it receives while interacting with a complex, uncertain environment. In *Reinforcement Learning*, Richard Sutton and Andrew Barto provide a clear and simple account of the field's key ideas and algorithms. This second edition has been significantly expanded and updated, presenting new topics and updating coverage of other topics. Like the first edition, this second edition focuses on core online learning algorithms, with the more mathematical material set off in shaded boxes. Part I covers as much of reinforcement learning as possible without going beyond the tabular case for which exact solutions can be found. Many algorithms presented in this part are new to the second edition, including UCB, Expected Sarsa, and Double Learning. Part II extends these ideas to function approximation, with new sections on such topics as artificial neural networks and the Fourier basis, and offers expanded treatment of off-policy learning and policy-gradient methods. Part III has new chapters on reinforcement learning's relationships to psychology and neuroscience, as well as an updated case-studies chapter including AlphaGo and AlphaGo Zero, Atari game playing, and IBM Watson's wagering strategy. The final chapter discusses the future societal impacts of reinforcement learning.