Ai Technology Achieving General Purpose Ai That Can

As a general-purpose technology Artificial Intelligence (AI) is expected to bring about far-reaching effects on business and society. Worldwide, governments have launched ambitious programmes to support the development of AI-based technologies and achieve technology leadership. Against this background, this study was commissioned by the Policy Department A upon request of the ITRE Committee to feed into the general debate on how Europe could seize the opportunity of progress made in AI.

If the human brain is a computer, which kind of algorithm does it employ? What is the true meaning of a human life? How will human species evolve in the future? These are some of those big questions that The Origin of Intelligence: Past, Present and Future of Man intends to answer. In this concise and mind-stimulating volume, Zhibo Zhang synthesizes a vast amount of human knowledge and presents simple and unambiguous answers to many fundamental questions concerning both nature and man. Despite that this book covers such a diverse range of topics, readers will be surprised to find that those seemingly disparate topics all fall within a single simple theoretical framework. This book is clearly and fluidly written. It is also surprisingly easy to read. It will be a treasure for professionals and the general public alike.

Cyber-solutions to real-world business problems Artificial Intelligence in Practice is a fascinating look into how companies use AI and machine learning to solve problems. Presenting 50 case studies of actual situations, this book demonstrates practical applications to issues faced by businesses around the globe. The rapidly evolving field of artificial intelligence has expanded beyond research labs and computer science departments and made its way into the mainstream business environment. Artificial intelligence and machine learning are cited as the most important modern business trends to drive success. It is used in areas ranging from banking and finance to social media and marketing. This technology continues to provide innovative solutions to businesses of all sizes, sectors and industries. This engaging and topical book explores a wide range of cases illustrating how businesses use AI to boost performance, drive efficiency, analyse market preferences and many others. Best-selling author and renowned AI expert Bernard Marr reveals how machine learning technology is transforming the way companies conduct business. This detailed examination provides an overview of each company, describes the specific problem and explains how AI facilitates resolution. Each case study provides a comprehensive overview, including some technical details as well as key learning summaries: Understand how specific business problems are addressed by innovative machine learning methods Explore how current artificial intelligence applications improve performance and increase efficiency in various situations Expand your knowledge of recent AI advancements in technology Gain insight on the future of AI and its increasing role in business and industry Artificial Intelligence in Practice: How 50 Successful Companies Used Artificial Intelligence to Solve Problems is an insightful and informative exploration of the transformative power of technology in 21st century commerce.

The rise of Artificial Intelligence applications is accelerating the pace and magnitude of the political, securitarian, and ethical challenges we are now struggling to manage in cyberspace and beyond. So far, the relationship between Artificial Intelligence and cyberspace has been investigated mostly in terms of the effects that AI could have on the digital domain, and thus on our societies. What has been explored less is the opposite relationship, namely, how the cyberspace geopolitics can affect AI. Yet, AI applications have so far suffered from growing unrest, disorder, and lack of normative solutions in cyberspace. As such, from algorithm biases, to surveillance and offensive applications, AI could accelerate multiple growing threats and challenges in and through cyberspace. This report by ISPI and The Brookings Institution is an effort to shed light on this less studied, but extremely relevant, relationship.

Move beyond the foundations of machine learning and game theory in cyber security to the latest research in this cutting-edge field In Game Theory and Machine Learning for Cyber Security, a team of expert security researchers delivers a collection of central research contributions from both machine learning and game theory applicable to cybersecurity. The distinguished editors have included resources that address open research questions in game theory and machine learning applied to cyber security systems and examine the strengths and limitations of current game theoretic models for cyber security. Readers will explore the vulnerabilities of traditional machine learning algorithms and how they can be mitigated in an adversarial machine learning approach. The book offers a comprehensive suite of solutions to a broad range of technical issues in applying game theory and machine learning to solve cyber security challenges. Beginning with an introduction to foundational concepts in game theory, machine learning, cyber security, and cyber deception, the editors provide readers with resources that discuss the latest in hypergames, behavioral game theory, adversarial machine learning, generative adversarial networks, and multi-agent reinforcement learning. Readers will also enjoy: A thorough introduction to game theory for cyber deception, including scalable algorithms for identifying stealthy attackers in a game theoretic framework, honeypot allocation over attack graphs, and behavioral games for cyber deception An exploration of game theory for cyber security, including actionable game-theoretic adversarial intervention detection against persistent and advanced threats Practical discussions of adversarial machine learning for cyber security, including adversarial machine learning in 5G security and machine learning-driven fault injection in cyber-physical systems In-depth examinations of generative models for cyber security Perfect for researchers, students, and experts in the fields of computer science and engineering, Game Theory and Machine Learning for Cyber Security is also an indispensable resource for industry professionals, military personnel, researchers, faculty, and students with an interest in cyber security.

AI is poised to transform every aspect of healthcare, including the way we manage personal health, from customer experience and clinical care to healthcare cost reductions. This practical book is one of the first to describe present and future use cases where AI can help solve pernicious healthcare problems. Kerrie Holley and Siupo Becker provide guidance to help informatics and healthcare leadership create AI strategy and implementation plans for healthcare. With this book, business stakeholders and practitioners will be able to build knowledge, a roadmap, and the confidence to support AIin their organizations—without getting into the weeds of algorithms or open source frameworks. Cowritten by an AI technologist and a medical doctor who leverages AI to solve healthcare's most difficult challenges, this book covers: The myths and realities of AI, now and in the future Human-centered AI: what it is and how to make it possible Using various AI technologies to go beyond precision medicine How to deliver patient care using the IoT and ambient computing with AI How AI can help reduce waste in healthcare AI strategy and how to identify high-priority AI application

Business is changing. Will you adapt or be left behind? Get up to speed and deepen your understanding of the topics that are shaping your company's future with the Insights You Need from Harvard Business Review series. Featuring HBR's smartest thinking on fast-moving issues, each book provides the foundational introduction and practical case studies your organization needs to compete today and collects the best research, interviews, and analysis to get it ready for tomorrow. You can't afford to ignore how these issues will transform the landscape of business and society. The Insights You Need series will help you grasp these critical ideas—and prepare you and your company for the future. This specially priced 8-volume set includes: Agile Artificial Intelligence Blockchain Climate Change Customer Data & Privacy Cybersecurity Monopolies & Tech Giants Strategic Analytics

The Regional Economics of Technological Transformations provides a comprehensive overview of 4.0 technological transformations in Europe and their socio-economic impact, with a particular emphasis on the regional dimension of the phenomena. The authors employ extensive original data and robust quantitative methods to analyse technological change in all regions of the 27 EU countries plus the UK and shed light on this trend for Europe and beyond. Structured in four parts, the book first looks at conceptual definitions, empirical measurements and expected impacts on both the economic performance (GDP and productivity growth) and the labour market, and then moves on to analyse where 4.0 technological transformation actually takes place in Europe and the reasons for this. Next, it offers original empirical

evidence on the impacts of the different transformations, and of their intertwined effects, on both the economy and the society. Finally, the book explores the policy implications of this technological transformation. This book will be valuable reading for advanced students, researchers and policymakers working across regional economics, industrial economics and innovation policy. It will be of primary interest to regional scientists interested in the field, who may enjoy the conceptual and empirical solutions to the study of a very complex, timely and still largely unexplored theme. Sociologists, engineers and political economists can benefit from the book's analysis, noting the urgency of the development of new ethical rules governing the new digital and labour markets. Finally, the book may appeal to policymakers interested in opportunities to increase regional competitiveness and sustainability goals through the advent of 4.0 technologies.

The monetary system is the indispensable missing link in the debate of sustainability, and whether the current financial system can handle these evolved needs. To date, the UN Sustainable Development Goals (SDGs) primarily have been financed either through the private sector, through conventional public sector taxes and fees, or through philanthropic commitment. Assuming a need of 4 to 5 trillion dollars annually in the 10 to 15 years left to finance our future, these conventional sources of finance are insufficient in terms of both the scale and speed of funding required to finance our future. Furthermore, the inherent instability of our financial system forces the world community to focus first and foremost on repairing and stabilizing the existing system. The development of cryptocurrencies using distributed ledger technologies (mainly blockchain) has prompted leading central banks to study the potential application of this approach to independently create purchasing power. In this vein, this book offers a new approach, namely introducing a parallel electronic currency specifically designed to finance global common goods and provide the resources necessary to achieve the SDGs. Furthermore, this mechanism would have a stabilizing effect on the existing monetary system. The book argues that one way this could be achieved is by giving central banks a modified monetary mandate to inject new liquidity into the system using a top-down approach. Alternatively, liquidity could come from corporate or communal initiatives with crypto- or communal currencies in a bottom-up approach. The author maintains that by issuing a blockchain-enabled parallel electronic currency earmarked for SDG-related projects and using other channels for monetary flow rather than the conventional ones, the future could be financed in a different manner. In the long run, abandoning our current monetary monoculture and introducing a monetary ecosystem would stabilize international financial markets, increase monetary regulatory efforts, reduce negative externalities, create a social Pareto optimum and stabilize democracies. This book presents, in the same spirit as Fritjof Capra's The Tao of Physics, a Tao of finance--an outside-of-the-box approach to financing global common goods.

Advances in artificial intelligence and automation have the potential to be labor-saving and to increase inequality and poverty around the globe. They also give rise to winner-takes-all dynamics that advantage highly skilled individuals and countries that are at the forefront of technological progress. We analyze the economic forces behind these developments and delineate domestic economic policies to mitigate the adverse effects while leveraging the potential gains from technological advances. We also propose reforms to the global system of governance that make the benefits of advances in artificial intelligence more inclusive.

Intelligence Unbound explores the prospects, promises, and potential dangers of machine intelligence and uploaded minds in a collection of state-of-the-art essays from internationally recognized philosophers, AI researchers, science fiction authors, and theorists. Compelling and intellectually sophisticated exploration of the latest thinking on Artificial Intelligence and machine minds Features contributions from an international cast of philosophers, Artificial Intelligence researchers, science fiction authors, and more Offers current, diverse perspectives on machine intelligence and uploaded minds, emerging topics of tremendous interest Illuminates the nature and ethics of tomorrow's machine minds—and of the convergence of humans and machines—to consider the pros and cons of a variety of intriguing possibilities Considers classic philosophical puzzles as well as the latest topics debated by scholars Covers a wide range of viewpoints and arguments regarding the prospects of uploading and machine intelligence, including proponents and skeptics, pros and cons

This book debates and discusses the present and future of Disruptive Technologies in general and military Disruptive Technologies in particular. Its primary goal is to discuss various critical and advanced elucidations on strategic technologies. The focus is less on extrapolating the future of technology in a strict sense, and more on understanding the Disruptive Technology paradigm. It is widely accepted that technology alone cannot win any military campaign or war. However, technological superiority always offers militaries an advantage. More importantly, technology also has a great deterrent value. Hence, on occasion, technology can help to avoid wars. Accordingly, it is important to effectively manage new technologies by identifying their strategic utility and role in existing military architectures and the possible contributions they could make towards improving overall military capabilities. This can also entail doctrinal changes, so as to translate these new technologies into concrete advantages.

The world as we know it is changing. Driverless cars, drone deliveries and autonomous weapon systems are no longer the stuff of science fiction. But what's next for technology and business, and how will it impact our society? In Connected World, Philip Larrey of the Pontifical Lateran University explores the consequences of the new digital age in conversation with leaders including Sir Martin Sorrell, CEO of WPP, Eric Schmidt, CEO of Google's parent company Alphabet, and Maurice Lévy, CEO of Publicis Groupe. Ranging from the death of privacy to the rise of artificial intelligence, Connected World asks the existential questions which will come to define our age.

This book addresses emerging issues concerning the integration of artificial intelligence systems in our daily lives. It focuses on the cognitive, visual, social and analytical aspects of computing and intelligent technologies, and highlights ways to improve the acceptance, effectiveness, and efficiency of said technologies. Topics such as responsibility, integration and training are discussed throughout. The book also reports on the latest advances in systems engineering, with a focus on societal challenges and next-generation systems and applications for meeting them. Further, it covers some cutting-edge issues in energy, including intelligent control systems for power plant, and technology acceptance models. Based on the AHFE 2021 Conferences on Human Factors in Software and Systems Engineering, Artificial Intelligence and Social Computing, and Energy, held virtually on 25-29 July, 2021, from USA, this book provides readers with extensive information on current research and future challenges in these fields, together with practical insights into the development of innovative services for various purposes.

Futurists are certain that humanlike AI is on the horizon, but in fact engineers have no idea how to program human reasoning. AI reasons from statistical correlations across data sets, while common sense is based heavily on conjecture. Erik Larson argues that hyping existing methods will only hold us back from developing truly humanlike AI.

The convergence of Artificial Intelligence (AI) in blockchain creates one of the world's most reliable technology-enabled decision-making systems that is virtually tamper-proof and provides solid insights and decisions. The integration of AI and Blockchain affects many aspects from food supply chain logistics and healthcare record sharing to media royalties and financial security. It is imperative that regulatory standards are emphasized in order to support positive outcomes from the integration of AI in blockchain technology. Regulatory Aspects of Artificial Intelligence on Blockchain provides relevant legal and security frameworks and the latest empirical research findings in blockchain and AI. Through the latest research and standards, the book identifies and offers solutions for overcoming legal consequences that pertain to the application of AI into the blockchain system, especially concerning the usage of smart contracts. The chapters, while investigating the legal and security issues associated with these applications, also include topics such as smart contacts, network vulnerability, cryptocurrency, machine learning, and more. This book is essential for technologists, security analysts, legal specialists, privacy and data security practitioners, IT consultants, standardization professionals, researchers, academicians, and students interested in blockchain and AI from a legal and security viewpoint.

Biotechnology can be defined as the manipulation of biological process, systems, and organisms in the production of various products. With applications in a number of fields such as biomedical, chemical, mechanical, and civil engineering, research on the development of biologically inspired materials is essential to further advancement. Biotechnology: Concepts, Methodologies, Tools, and Applications is a vital reference source for the latest research findings on the application of biotechnology in medicine, engineering, agriculture, food production, and other areas. It also examines the economic impacts of biotechnology use. Highlighting a range of topics such as pharmacogenomics, biomedical engineering, and bioinformatics, this multi-volume book is ideally designed for engineers, pharmacists, medical professionals, practitioners, academicians, and researchers interested in the applications of biotechnology.

This fully revised edition of Handbook of Pharmaceutical Granulation Technology covers the rapid advances in the science of agglomeration, process control, process modelling, scale-up, emerging particle engineering technologies, along with current regulatory changes presented by some of the prominent scientist and subject matter experts around the globe. Learn from more than 50 global subject matter experts who share their years of experience in areas ranging from drug delivery and pharmaceutical technology to advances in nanotechnology. Every pharmaceutical scientist should own a copy of this fourth edition resource. Key Features: Theoretical discussions covering granulation and engineering perspectives. Covers new advances in expert systems, process modelling and bioavailability Chapters on emerging technologies in particle engineering Updated Current research and developments in granulation technologies

Learn modern-day technologies from modern-day technical giants.KEY FEATURES1. Real-world success and failure stories of artificial intelligence explained2. Understand concepts of artificial intelligence and deep learning methods 3. Learn how to use artificial intelligence and deep learning methods4. Know how to prepare dataset and implement models using industry leading Python packages 5. You'll be able to apply and analyze the results produced by the models for predictionDESCRIPTION The aim of this book is to help the readers understand the concept of artificial intelligence and deep learning methods and implement them into their businesses and organizations. The first two chapters describe the introduction of the artificial intelligence and deep learning methods. In the first chapter, the concept of human thinking process, starting from the biochemical responses within the structure of neurons to the problem-solving steps through computational thinking skills are discussed. All chapters after the first two should be considered as the study of different technological and Artificial Intelligence giants of current age. These chapters are placed in a way that each chapter could be considered a separate study of a separate company, which includes the achievements of intelligent services currently provided by the company, discussion on the business model of the company towards the use of the deep learning technologies, the advancement of the web services which are incorporated with intelligent capability introduced by company, the efforts of the company in contributing to the development of the artificial intelligence and deep learning research. WHAT WILL YOU LEARN How to use the algorithms written in the Python programming language to design models and perform predictions in general datasetsUnderstand use cases in different industries related to the implementation of artificial intelligence and deep learning methodsLearn the use of potential ideas in artificial intelligence and deep learning methods to improve the operational processes or new products and how services can be produced based on the methodsWHO THIS BOOK IS FORThis book is targeted to business and organization leaders, technology enthusiasts, professionals, and managers who seek knowledge of artificial intelligence and deep learning methods.Table of Contents1. Artificial Intelligence and Deep Learning2. Data Science for Business Analysis3. Decision Making4. Intelligent Computing Strategies By Google 5. Cognitive Learning Services in IBM Watson6. Advancement web services by Baidu 7. Improved Social Business by Facebook8. Personalized Intelligent Computing by Apple9. Cloud Computing Intelligent by MicrosoftAbout the AuthorDr. Jagreet KaurDr. Jagreet Kaur is a doctorate in computer science and engineering. Her topic of thesis was "e;ARTIFICIAL INTELLIGENCE BASED ANALYTICAL PLATFORM FOR PREDICTIVE ANALYSIS IN HEALTH CARE."e; With more than 12 years of experience in academics and research, she is working in data wrangling, machine learning and deeplearning algorithms on large datasets, real-time data often in production environments for data science solutions and data products to get actionable insights for the last four years. She also possesses ten international publications and five national publications under her name.Her skill set includes data engineering skills (Hadoop, Apache Spark, Apache Kafka, Cassandra, Hive, Flume, Scoop, and Elasticsearch), programming skills (Python, Angularjs, D3.js , Machine Learning, and R), data science skills (Statistics, Machine Learning, NLP, NLTK, Artificial Intelligence, R, Python, Pandas, Sklearn, Hadoop, SQL, Statistical Modeling, Data Munging, Decision Science, Machine Learning, Graph Analysis, Text Mining and Optimization, and Web Scraping, Deep learning packages:- Theano, Keras, Tensorflow, Pytorch, Julia) and Algorithms Specialization (Regression Algorithms: Linear Regression, Random Forest Regressor, XGBoost, SVR, Ridge Regression, Lasso Regression, Neural Networks Classification Algorithms: Decision Trees, Random Forest Classifier, Support Vector Machines(SVM), Logistic Regression, KNN Classifier, Neural Network, Clustering Algorithms: K-Means, DBSCAN, Deep Learning Algorithms: Simple RNN, LSTM Network, GRU)Currently, she works as a Chief Operating Officer (COO) and Chief Data Scientist in Xenonstack. Under her Guidance, more than 400 projects are already developed and productionized which also includes more than 200 AI and data science projects. Navdeep Singh GillNaveed Singh Gill is a technology and solution architect having more than 15 years of experience in the IT and Telecom industry. For the past six years, he is working in big data analytics, automation and advanced analytics using machine learning and deep learning for planning and architecting of data science solutions and data products. He's also working in 3 As (Analytics, Automation, and AI), more focused on writing software for building data lake, analytics platform , NoSQL deployments, data migration, data modelling tasks, ML/DL on real-time data often in production environments.He started his career with HFCL Infotel as a network engineer for managing the technical network of Broadband Customers with Linux servers and Cisco routers. He also worked in Ericsson, where he handled the synchronization plan and implementation for synchronization of Microwave Network and Media Gateway, MSS, and Core Network. SSU Implementation Planning and Optimization with respect to IP RAN, Mobile Backhaul Solution- Optimization of Existing Microwave Network to Ethernet, Microwave Hybrid Solution, Convergence to all IP, SIU Implementation for conversion to IP of Existing BTS,GB over IP.His area of expertise includes Hadoop, Openstack, DevOps, Kubernetes, Dockers, Amazon web services, Apache Spark, Apache Storm, Apache Kafka, Hbase, Solr, Apache FlinkNutch, Mapreduce, Pig, Hive, Flume, Scoop, ElasticSearch, and programming expertise includes Python, Angular.js, and Node.js.

This Concise Encyclopedia of Software Engineering is intended to provide compact coverage of the knowledge relevant to the practicing software engineer. The content has been chosen to provide an introduction to the theory and techniques relevant to the software of a broad class of computer applications. It is supported by examples of particular applications and their enabling technologies. This Encyclopedia will be of value to new practitioners who need a concise overview and established practitioners who need to read about the "penumbra" surrounding their own specialities. It will also be useful to professionals from other disciplines who need to gain some understanding of the various aspects of software engineering which underpin complex information and control systems, and the thinking behind them.

"Explores the challenges to constitutional values posed by sweeping technological changes such as social networks, brain scans, and genetic selection and suggests ways of preserving rights, including privacy, free speech, and dignity in the age of Facebook and Google"--

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. This work reports on research into intelligent systems, models, and architectures for educational computing applications. It covers a wide range of advanced information and communication and computational methods applied to education and training.

The interaction of database and AI technologies is crucial to such applications as data mining, active databases, and knowledge-based expert systems. This volume collects the primary readings on the interactions, actual and potential, between these two fields. The editors have chosen articles to balance significant early research and the best and most comprehensive articles from the 1980s. An in-depth introduction discusses basic research motivations, giving a survey of the history, concepts, and terminology of the interaction. Major themes, approaches and results, open issues and future directions are all discussed, including the results of a major survey conducted by the editors of current work in industry and research labs. Thirteen sections follow, each with a short introduction. Topics examined include semantic data models with emphasis on conceptual modeling techniques for databases and information systems and the integration of data model concepts in high-level data languages, definition and maintenance of integrity constraints in databases and knowledge bases, natural language front ends, object-oriented database management systems, implementation issues such as concurrency control and error recovery, and representation of time and knowledge incompleteness from the viewpoints of databases, logic programming, and AI.

This book explains how AI and Machine Learning can be applied to help businesses solve problems, support critical thinking and ultimately create customer value and increase profit. By considering business strategies, business process modeling, quality assurance, cybersecurity, governance and big data and focusing on functions, processes, and people's behaviors it helps businesses take a truly holistic approach to business optimization. It contains practical examples that make it easy to understand the concepts and apply them. It is written for practitioners (consultants, senior executives, decision-makers) dealing with real-life business problems on a daily basis, who are keen to develop systematic strategies for the application of AI/ML/BD technologies to business automation and optimization, as well as researchers who want to explore the industrial applications of AI and higher-level students.

The comprehensive guide to project management implementation, updated with the latest in the field Project management has spread beyond the IT world to become a critical part of business in every sphere; built on efficiency, analysis, and codified practice, professional project management leads to the sort of reproducible results and reliable processes that make a business successful. Project Management Best Practices provides implementation guidance for every phase of a project, based on the real-world methodologies from leading companies around the globe. Updated to align with the industry's latest best practices, this new Fourth Edition includes new discussion on Agile and Scrum, tradeoffs and constraints, Portfolio PMO tools, and much more. Get up-to-date information on the latest best practices that add value at every level of an organization Gain insight from more than 50 project managers at world-class organizations including Airbus, Heineken, RTA, IBM, Hewlett-Packard, Sony, Cisco, Nokia, and more Delve deeper into implementation guidance for Agile, Scrum, and Six Sigma Explore more efficient methodologies, training, measurement, and metrics that boost organization-wide performance Adopt new approaches to culture and behavioral excellence, including conflict resolution, situational leadership, proactive management, staffing, and more Ideal for both college and corporate training, this book is accompanied by an Instructor's Manual and PowerPoint lecture slides that bring project management concepts right into the classroom. As the field continues to grow and evolve, it becomes increasingly important to stay current with new and established practices; this book provides comprehensive guidance on every aspect of project management, with invaluable real-world insight from leaders in the field.

The use of artificial intelligence systems is ready to transition from basic science research and a blooming commercial industry to strategic implementation in the Defense Acquisition system. The purpose of this research is to determine the problems awaiting artificial intelligence (AI) systems inherent to defense acquisition. AI is a field of scientific study focused on the construction of systems that can act rationally, behave humanly, and adapt. To achieve AI behavior takes AI essentials, which consider mobility, system perspective, and algorithms. Unfortunately, AI essentials are under addressed in the concept of operations that fuels the Joint Capabilities Integration and Development System. Influences to the concept of operations analyzed in this research include strategic documentation, joint technology demonstrations, and exercises that aim to capture technology-based lessons learned. Failure to address AI essentials causes problems in defense acquisition: system requirements are impossible to define; transition of AI technology fails; testing cannot be evaluated with confidence; and life cycle planning is at best a guess. To address these issues, the Department of Defense needs improved planning, acquisition personnel training, and AI-supported acquisition processes to achieve cost, schedule, and performance goals. Chapter II, "Literature Review" provides a snapshot of AI today. It works to provide a general understanding of the scientific field and technology that is AI, the spectrum of behaviors expected from AI systems, what composition of an AI system, and the identities of AI industry leaders. The reader should be able to understand a working definition of AI systems, a general sense of AI technology readiness, and the emerging industry surrounding AI. Next, Chapter III, "JCIDS," examines the ability for DOD processes to develop requirements for AI applications. Requirements developments starts at a strategic level, directing military resources to achieve present and future military needs. The JCIDS clarifies strategic direction, identifying capability gaps and validating needs (CJCS, 2012, p. 2). This chapter outlines how the JCIDS builds validated requirement documents, then focuses on grading AI elements in the joint CONOPs. The reader should leave this section with an understanding of CONOPs AI maturity and its influence on validated requirements headed for the DAS. Chapter IV, "DAS," focuses on the DAS and the processes that PMs use to manage system acquisition. The DAS is defined by DOD regulation, and gives direction for management of systems engineering, financial management, and contracting efforts (DOD, 2017, p. 51). This chapter analyzes the general process for developing and purchasing defense systems and the seminal areas inside of the DAS where software-intensive systems have struggled. The reader should leave this section understanding the consequences that poorly defined AI requirements would have on program cost, performance, and schedule. Chapter V, "Conclusion," integrates the ideas uncovered from the research in order to answer the secondary research questions and then the primary research question. Next, it makes recommendations based on the research that should help to prepare JCIDS

and DAS for success with AI systems. Lastly, Chapter V proposes future areas of research that will generate more comprehensive information about the definition of AI requirements and how to meet cost, schedule, and performance during system fielding.

As technology continues to saturate modern society, agriculture has started to adopt digital computing and data-driven innovations. This emergence of "smart" farming has led to various advancements in the field, including autonomous equipment and the collection of climate, livestock, and plant data. As connectivity and data management continue to revolutionize the farming industry, empirical research is a necessity for understanding these technological developments. Artificial Intelligence and IoT-Based Technologies for Sustainable Farming and Smart Agriculture provides emerging research exploring the theoretical and practical aspects of critical technological solutions within the farming industry. Featuring coverage on a broad range of topics such as crop monitoring, precision livestock farming, and agronomic data processing, this book is ideally designed for farmers, agriculturalists, product managers, farm holders, manufacturers, equipment suppliers, industrialists, governmental professionals, researchers, academicians, and students seeking current research on technological applications within agriculture and farming.

Architects of IntelligenceThe truth about AI from the people building itPackt Publishing Ltd

This book begins with the past and present of the subversive technology of artificial intelligence, clearly analyzes the overall picture, latest developments and development trends of the artificial intelligence industry, and conducts in-depth research on the competitive situation of various countries. The book also provides an in-depth analysis of the opportunities and challenges that artificial intelligence brings to individuals, businesses, and society. For readers who want to fully understand artificial intelligence, this book provides an important reference and is a must-read. Tencent Research Institute is a public strategy research unit of Tencent. Taking advantage of Tencent's diversified products, enriched practices and huge data asset, TRI focuses its effort on major issues of internet development. Through the open, collaborative research platform it has built, TRI aims to unite leading brains from walks of life in promoting healthy, orderly development of digital economy and society by providing cutting-edge thinking. Internet Law Research Center of China Academy of Information and Communications Technology(CAICT): Internet Law Research Center of CAICT is committed to research on legal and policy issues in the fields of information and communication, the Internet, big data, and related international rules, market opening and institutional reforms in the WTO, providing legislative and policy advice to relevant government departments, and building platforms for communication and collaboration between government and enterprises. Tencent AI Lab was established in April 2016, with more than 70 world-class AI PhDs and more than 300 experienced application engineers. The lab specializes in basic research in the fields of machine learning, computer vision, speech recognition and natural language understanding. It combines content, games, social and platform tools to explore the four AI applications. Tencent open platform is provided as a large stage for developers who can use the various product capabilities provided by Tencent's open platform to develop excellent applications and tools, and gain huge traffic and revenue. In the AI era, the platform brings together top AI technologies, professionals and industry resources to incubate and build high-quality AI entrepreneurial projects to help AI capabilities apply in the segmentation field.--

Companies that don't use AI to their advantage will soon be left behind. Artificial intelligence and machine learning will drive a massive reshaping of the economy and society. What should you and your company be doing right now to ensure that your business is poised for success? These articles by AI experts and consultants will help you understand today's essential thinking on what AI is capable of now, how to adopt it in your organization, and how the technology is likely to evolve in the near future. Artificial Intelligence: The Insights You Need from Harvard Business Review will help you spearhead important conversations, get going on the right AI initiatives for your company, and capitalize on the opportunity of the machine intelligence revolution. Catch up on current topics and deepen your understanding of them with the Insights You Need series from Harvard Business Review. Featuring some of HBR's best and most recent thinking, Insights You Need titles are both a primer on today's most pressing issues and an extension of the conversation, with interesting research, interviews, case studies, and practical ideas to help you explore how a particular issue will impact your company and what it will mean for you and your business.

Book Description How will AI evolve and what major innovations are on the horizon? What will its impact be on the job market, economy, and society? What is the path toward human-level machine intelligence? What should we be concerned about as artificial intelligence advances? Architects of Intelligence contains a series of in-depth, one-to-one interviews where New York Times bestselling author, Martin Ford, uncovers the truth behind these questions from some of the brightest minds in the Artificial Intelligence community. Martin has wide-ranging conversations with twenty-three of the world's foremost researchers and entrepreneurs working in AI and robotics: Demis Hassabis (DeepMind), Ray Kurzweil (Google), Geoffrey Hinton (Univ. of Toronto and Google), Rodney Brooks (Rethink Robotics), Yann LeCun (Facebook) , Fei-Fei Li (Stanford and Google), Yoshua Bengio (Univ. of Montreal), Andrew Ng (AI Fund), Daphne Koller (Stanford), Stuart Russell (UC Berkeley), Nick Bostrom (Univ. of Oxford), Barbara Grosz (Harvard), David Ferrucci (Elemental Cognition), James Manyika (McKinsey), Judea Pearl (UCLA), Josh Tenenbaum (MIT), Rana el Kaliouby (Affectiva), Daniela Rus (MIT), Jeff Dean (Google), Cynthia Breazeal (MIT), Oren Etzioni (Allen Institute for AI), Gary Marcus (NYU), and Bryan Johnson (Kernel). Martin Ford is a prominent futurist, and author of Financial Times Business Book of the Year, Rise of the Robots. He speaks at conferences and companies around the world on what AI and automation might mean for the future.

Researchers in the evolving fields of artificial intelligence and information systems are constantly presented with new challenges. Artificial Intelligence and Integrated Intelligent Information Systems: Emerging Technologies and Applications provides both researchers and professionals with the latest knowledge applied to customized logic systems, agent-based

approaches to modeling, and human-based models. Artificial Intelligence and Integrated Intelligent Information Systems: Emerging Technologies and Applications presents the recent advances in multi-mobile agent systems, the product development process, fuzzy logic systems, neural networks, and ambient intelligent environments among many other innovations in this exciting field.

While science and technology have been moving at speed in the last decade and major investments have been placed in Artificial Intelligence, blockchain technology, 3D printing, and gene editing, medical practice, including cutaneous medicine (otherwise known as Dermatology), is only just starting to follow these technological advances. This book is a timely intellectual investment for cutaneous medicine, addressing these particularly needed areas. It is written for medical educators, dermatology residents, practicing dermatologists, and medical researchers in the area of skin diseases, to alert them all to medical advances and up-and-coming technology and in the hope, it will inspire further novel methodology for the future of cutaneous medicine, in diagnosis and therapy.

After a long time of neglect, Artificial Intelligence is once again at the center of most of our political, economic, and socio-cultural debates. Recent advances in the field of Artifical Neural Networks have led to a renaissance of dystopian and utopian speculations on an AI-rendered future. Algorithmic technologies are deployed for identifying potential terrorists through vast surveillance networks, for producing sentencing guidelines and recidivism risk profiles in criminal justice systems, for demographic and psychographic targeting of bodies for advertising or propaganda, and more generally for automating the analysis of language, text, and images. Against this background, the aim of this book is to discuss the heterogenous conditions, implications, and effects of modern AI and Internet technologies in terms of their political dimension: What does it mean to critically investigate efforts of net politics in the age of machine learning algorithms?

Companies that don't use AI will soon be obsolete. From making faster, better decisions to automating rote work to enabling robots to respond to emotions, AI and machine learning are already reshaping business and society. What should you and your company be doing today to ensure that you're poised for success and keeping up with your competitors in the age of AI? Artificial Intelligence: The Insights You Need from Harvard Business Review brings you today's most essential thinking on AI and explains how to launch the right initiatives at your company to capitalize on the opportunity of the machine intelligence revolution. Business is changing. Will you adapt or be left behind? Get up to speed and deepen your understanding of the topics that are shaping your company's future with the Insights You Need from Harvard Business Review series. Featuring HBR's smartest thinking on fast-moving issues--blockchain, cybersecurity, AI, and more--each book provides the foundational introduction and practical case studies your organization needs to compete today and collects the best research, interviews, and analysis to get it ready for tomorrow. You can't afford to ignore how these issues will transform the landscape of business and society. The Insights You Need series will help you grasp these critical ideas--and prepare you and your company for the future.

This book constitutes the refereed proceedings of the Second International Conference, SLAAI-ICAI 2018, held in Moratuwa, Sri Lanka, in December 2018. The 32 revised full papers presented were carefully reviewed and selected from numerous submissions. The papers are organized in the following topical sections: ?intelligence systems; neural networks; game theory; ontology engineering; natural language processing; agent based system; signal and image processing.

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