Applications Of Artificial Intelligence For Decision Making

Enhanced, more reliable, and better understood than in the past, artificial intelligence (AI) systems can make providing healthcare more accurate, affordable, accessible, consistent, and efficient. However, AI technologies have not been as well integrated into medicine as predicted. In order to succeed, medical and computational scientists must develop hybrid systems that can effectively and efficiently integrate the experience of medical care professionals with capabilities of AI systems. After providing a general overview of artificial intelligence concepts, tools, and techniques, Medical Applications of Artificial Intelligence reviews the research, focusing on state-ofthe-art projects in the field. The book captures the breadth and depth of the medical applications of artificial intelligence, exploring new developments and persistent challenges.

This book covers a wide range of topics on the role of Artificial Intelligence, Machine Learning, and Big Data for healthcare applications and deals with the ethical issues and concerns associated with it. This book explores the applications in different areas of healthcare and highlights the current research. "Big Data and Artificial Intelligence for Healthcare

Applications" covers healthcare big data analytics, mobile health and personalized medicine, clinical trial data management and presents how Artificial Intelligence can be used for early disease diagnosis prediction and prognosis. It also offers some case studies that describes the application of Artificial **Intelligence and Machine Learning in healthcare.** Researchers, healthcare professionals, data scientists, systems engineers, students, programmers, clinicians, and policymakers will find this book of interest. In recent years, the use of Artificial Intelligence (AI) techniques has been greatly increased. The term "intelligence" seems to be a "must" in a large number of European and International project calls. AI Techniques have been used in almost any domain. **Application-oriented systems usually incorporate some** kind of "intelligence" by using techniques stemming from intelligent search, knowledge representation, machine learning, knowledge discovery, intelligent agents, computational intelligence etc. The Workshop on "Applications with Artificial Intelligence" seeks for quality papers on computer applications that incorporate some kind of AI technique. The objective of the workshop was to bring together scientists, engineers and practitioners, who work on designing or developing applications that use intelligent techniques or work on intelligent techniques and apply them to application domains (like medicine, biology, education etc), to present and discuss their research works and

exchange ideas in this book.

The book is a collection of high-quality, peer-reviewed innovative research papers from the International **Conference on Signals, Machines and Automation** (SIGMA 2018) held at Netaji Subhas Institute of Technology (NSIT), Delhi, India. The conference offered researchers from academic and industry the opportunity to present their original work and exchange ideas, information, techniques and applications in the field of computational intelligence, artificial intelligence and machine intelligence. The book is divided into two volumes discussing a wide variety of industrial, engineering and scientific applications of the emerging techniques. **Artificial Intelligence and Knowledge Engineering Applications: A Bioinspired Approach Artificial Intelligence in Accounting Artificial Intelligence Techniques for Cyber-Physical**, **Digital Twin Systems and Engineering Applications Artificial Intelligence**

Practical Applications

Systems Engineering and Artificial Intelligence
Applications of Artificial Intelligence in Process Systems
Engineering offers a broad perspective on the issues related
to artificial intelligence technologies and their applications
in chemical and process engineering. The book
comprehensively introduces the methodology and
applications of AI technologies in process systems
engineering, making it an indispensable reference for

researchers and students. As chemical processes and systems are usually non-linear and complex, thus making it challenging to apply AI methods and technologies, this book is an ideal resource on emerging areas such as cloud computing, big data, the industrial Internet of Things and deep learning. With process systems engineering's potential to become one of the driving forces for the development of AI technologies, this book covers all the right bases. Explains the concept of machine learning, deep learning and state-of-the-art intelligent algorithms Discusses AI-based applications in process modeling and simulation, process integration and optimization, process control, and fault detection and diagnosis Gives direction to future development trends of AI technologies in chemical and process engineering

Artificial Intelligence: Technologies, Applications, and Challenges is an invaluable resource for readers to explore the utilization of Artificial Intelligence, applications, challenges, and its underlying technologies in different applications areas. Using a series of present and future applications, such as indoor-outdoor securities, graphic signal processing, robotic surgery, image processing, character recognition, augmented reality, object detection and tracking, intelligent traffic monitoring, emergency department medical imaging, and many more, this publication will support readers to get deeper knowledge and implementing the tools of Artificial Intelligence. The book offers comprehensive coverage of the most essential topics, including: Rise of the machines and communications to IoT (3G, 5G). Tools and Technologies of Artificial Intelligence Real-time applications of artificial intelligence using

machine learning and deep learning. Challenging Issues and Novel Solutions for realistic applications Mining and tracking of motion based object data image processing and analysis into the unified framework to understand both IoT and Artificial Intelligence-based applications. This book will be an ideal resource for IT professionals, researchers, under or post-graduate students, practitioners, and technology developers who are interested in gaining insight to the Artificial Intelligence with deep learning, IoT and machine learning, critical applications domains, technologies, and solutions to handle relevant challenges.

Artificial intelligence is increasingly finding its way into industrial and manufacturing contexts. The prevalence of AI in industry from stock market trading to manufacturing makes it easy to forget how complex artificial intelligence has become. Engineering provides various current and prospective applications of these new and complex artificial intelligence technologies. Applications of Artificial Intelligence in Electrical Engineering is a critical research book that examines the advancing developments in artificial intelligence with a focus on theory and research and their implications. Highlighting a wide range of topics such as evolutionary computing, image processing, and swarm intelligence, this book is essential for engineers, manufacturers, technology developers, IT specialists, managers, academicians, researchers, computer scientists, and students.

Artificial Intelligence (AI) in Healthcare is more than a comprehensive introduction to artificial intelligence as a tool in the generation and analysis of healthcare data. The book is split into two sections where the first section describes the

current healthcare challenges and the rise of AI in this arena. The ten following chapters are written by specialists in each area, covering the whole healthcare ecosystem. First, the AI applications in drug design and drug development are presented followed by its applications in the field of cancer diagnostics, treatment and medical imaging. Subsequently, the application of AI in medical devices and surgery are covered as well as remote patient monitoring. Finally, the book dives into the topics of security, privacy, information sharing, health insurances and legal aspects of AI in healthcare. Highlights different data techniques in healthcare data analysis, including machine learning and data mining Illustrates different applications and challenges across the design, implementation and management of intelligent systems and healthcare data networks Includes applications and case studies across all areas of AI in healthcare data

Recent Trends and Applications

Advances in Research and Applications

Artificial Intelligence: Methods and Applications

Artificial Intelligence in Healthcare

Applications of Artificial Intelligence in Electrical Engineering

Select Proceedings of ICAAAIML 2020

The book presents a collection of peer-reviewed articles from the International Conference on Advances and Applications of Artificial Intelligence and Machine Learning - ICAAAIML 2020. The book covers research in artificial intelligence, machine learning, and deep learning applications in

healthcare, agriculture, business, and security. This volume contains research papers from academicians, researchers as well as students. There are also papers on core concepts of computer networks, intelligent system design and deployment, real-time systems, wireless sensor networks, sensors and sensor nodes, software engineering, and image processing. This book will be a valuable resource for students, academics, and practitioners in the industry working on AI applications. This book presents various recent applications of Artificial Intelligence in Information and Communication Technologies such as Search and Optimization methods, Machine Learning, Data Representation and Ontologies, and Multi-agent Systems. The main aim of this book is to help Information and Communication Technologies (ICT) practitioners in managing efficiently their platforms using AI tools and methods and to provide them with sufficient Artificial Intelligence background to deal with real-life problems.

"This book provides introductory instruction on how to learn how to use artificial intelligence to produce additively manufactured parts, including a description of the starting points, what you can know, how it blends and how artificial intelligence in additive manufacturing apply"--

The rediscovery of the potential of artificial intelligence (AI) to improve healthcare delivery and Page 7/34

patient outcomes has led to an increasing application of AI techniques such as deep learning, computer vision, natural language processing, and robotics in the healthcare domain. Many governments and health authorities have prioritized the application of AI in the delivery of healthcare. Also, technological giants and leading universities have established teams dedicated to the application of AI in medicine. These trends will mean an expanded role for AI in the provision of healthcare. Yet, there is an incomplete understanding of what AI is and its potential for use in healthcare. This book discusses the different types of AI applicable to healthcare and their application in medicine, population health, genomics, healthcare administration, and delivery. Readers, especially healthcare professionals and managers, will find the book useful to understand the different types of Al and how they are relevant to healthcare delivery. The book provides examples of AI being applied in medicine, population health, genomics, healthcare administration, and delivery and how they can commence applying AI in their health services. Researchers and technology professionals will also find the book useful to note current trends in the application of AI in healthcare and initiate their own projects to enable the application of AI in healthcare/medical domains.

Applications of Artificial Intelligence in Engineering

The Application of Artificial Intelligence Latin American Women and Research Contributions to the IT Field Artificial Intelligence Applications in Information and **Communication Technologies** Technologies, Applications, and Challenges This book highlights the latest advances in the field of artificial intelligence and related technologies, with a special focus on sustainable development and environmentally friendly artificial intelligence applications. Discussing theory, applications and research, it covers all aspects of artificial intelligence in the context of sustainable development. The Application of Artificial IntelligenceStep-by-Step Guide from Beginner to ExpertSpringer This book focuses on the implementation of Artificial Intelligence in Business, Education and Healthcare, It includes research articles and expository papers on the applications of Artificial Intelligence on Decision Making, Entrepreneurship, Social Media, Healthcare, Education, Public Sector, FinTech, and RegTech. It also discusses the role of Artificial Intelligence in the current COVID-19 pandemic, in the health sector, education, and others. It also discusses the impact of Artificial Intelligence on decision-making in vital sectors of the economy. Learn the skills necessary to design, build, and deploy applications powered by machine learning (ML). Through the course of this hands-on book, $_{\it Page~9/34}$

you 'Il build an example ML-driven application from initial idea to deployed product. Data scientists, software engineers, and product managers—including experienced practitioners and novices alike—will learn the tools, best practices, and challenges involved in building a real-world ML application step by step. Author Emmanuel Ameisen, an experienced data scientist who led an Al education program, demonstrates practical ML concepts using code snippets, illustrations, screenshots, and interviews with industry leaders. Part I teaches you how to plan an ML application and measure success. Part II explains how to build a working ML model. Part III demonstrates ways to improve the model until it fulfills your original vision. Part IV covers deployment and monitoring strategies. This book will help you: Define your product goal and set up a machine learning problem Build your first end-to-end pipeline quickly and acquire an initial dataset Train and evaluate your ML models and address performance bottlenecks Deploy and monitor your models in a production environment

First International Work-Conference on the Interplay Between Natural and Artificial Computation, IWINAC 2005, Las Palmas, Canary Islands, Spain, June 15-18, 2005, Proceedings Transforming Every Aspect of Our Life

Applications in Healthcare Delivery

Tools and Applications with Artificial Intelligence History, Diagnostic Tools, Epidemiology, Healthcare, and Technology

Artificial Intelligence Applications in Distance Education

This book gathers selected papers from Artificial Intelligence and Industrial Applications (A2IA'2020), the first installment of an annual international conference organized by ENSAM-Meknes at Moulay Ismail University, Morocco. The 29 papers presented here were carefully reviewed and selected from 141 submissions by an international scientific committee. They address various aspects of artificial intelligence such as digital twin, multiagent systems, deep learning, image processing and analysis, control, prediction, modeling, optimization and design, as well as AI applications in industry, health, energy, agriculture, and education. The book is intended for AI experts, offering them a valuable overview and global outlook for the future, and highlights a wealth of innovative ideas and recent, important advances in AI applications, both of a foundational and practical nature. It will also appeal to non-experts who are curious about this timely and important subject. Applications of Artificial Intelligence Techniques in the Petroleum Industry gives engineers a critical resource to help them understand the machine learning that will solve specific engineering challenges. The reference begins with fundamentals, covering preprocessing of data, types of intelligent models, and training and optimization algorithms. The book moves $_{\text{Page }11/34}^{\text{page }11/34}$

on to methodically address artificial intelligence technology and applications by the upstream sector, covering exploration, drilling, reservoir and production engineering. Final sections cover current gaps and future challenges. Teaches how to apply machine learning algorithms that work best in exploration, drilling, reservoir or production engineering Helps readers increase their existing knowledge on intelligent data modeling, machine learning and artificial intelligence, with foundational chapters covering the preprocessing of data and training on algorithms Provides tactics on how to cover complex projects such as shale gas, tight oils, and other types of unconventional reservoirs with more advanced model input

As transactions and other business functions move online and grow more popular every year, the finance and banking industries face increasingly complex data management and identity theft and fraud issues. AI can bring many financial and business functions to the next level, as systems using deep learning technologies are able to analyze patterns and spot suspicious behavior and potential fraud. In this volume, the focus is on the application of artificial intelligence in finance, business, and related areas. The book presents a selection of chapters presenting cutting-edge research on current business practices in finance and management. Topics cover the use of AI in e-commerce systems, financial services, fraud prevention, identifying loan-eligible customers, online business, Facebook social commerce, insurance

industry, online marketing, and more. This book presents a unique, understandable view of machine learning using many practical examples and access to free professional software and open source code. The user-friendly software can immediately be used to apply everything you learn in the book without the need for programming. After an introduction to machine learning and artificial intelligence, the chapters in Part II present deeper explanations of machine learning algorithms, performance evaluation of machine learning models, and how to consider data in machine learning environments. In Part III the author explains automatic speech recognition, and in Part IV biometrics recognition, face- and speakerrecognition. By Part V the author can then explain machine learning by example, he offers cases from real-world applications, problems, and techniques, such as anomaly detection and root cause analyses, business process improvement, detecting and predicting diseases, recommendation AI, several engineering applications, predictive maintenance, automatically classifying datasets, dimensionality reduction, and image recognition. Finally, in Part VI he offers a detailed explanation of the AI-TOOLKIT, software he developed that allows the reader to test and study the examples in the book and the application of machine learning in professional environments. The author introduces core machine learning concepts and supports these with practical examples of their use, so professionals will appreciate his approach and use the book for self-study. It will

also be useful as a supplementary resource for advanced undergraduate and graduate courses on machine learning and artificial intelligence. Big Data and Artificial Intelligence for Healthcare Applications

Artificial Intelligence: Theory and Applications Applications of Artificial Intelligence for Smart Technology

Applications of Artificial Intelligence in Process Systems Engineering

Applications of Artificial Intelligence in Business and Finance

Applications of Artificial Intelligence in COVID-19 **Researches and Applications of Artificial Intelligence to Mitigate Pandemics: History,** Diagnostic Tools, Epidemiology, Healthcare, and Technology offers readers an interdisciplinary view of state-of-art research related to the COVID-19 outbreak, with a focus on tactics employed to model the number of cases of **COVID-19** (time series modeling), models employed to diagnostics COVID-19 based on images, and the panoramic of COVID-19 since its discovery and up to this book's publication. This book showcases the algorithms and models available to manage pandemic data, the role of AI, IoT and Mathematical Modeling, how to prevent and fight COVID-19, and the existing medical, social and pharmaceutical support. Chapters cover methods and protocols, the basics and history of diseases, the fast diagnosis of

disease with different automated algorithms and artificial intelligence tools and techniques, the methods of handling epidemiology for mitigating the spread of disease, artificial intelligence and mathematical modeling techniques, and how mental and physical health is affected with social media usage. Explains novel and hybrid high quality artificial intelligence methodologies, techniques, algorithms, architectures, tools and methods to cope with pandemics Covers rapid point-of-care diagnostics, presents details on varied mathematical models developed to control epidemiology, and lists existing measures to disseminate the spread of infection using computational methods Highlights the negative effect of social media and other sources by applying preventive measures to combat depression and anxiety

The general theme of this book is to present the applications of artificial intelligence (AI) in test development. In particular, this book includes research and successful examples of using AI technology in automated item generation, automated test assembly, automated scoring, and computerized adaptive testing. By utilizing artificial intelligence, the efficiency of item development, test form construction, test delivery, and scoring could be dramatically increased. Chapters on automated item generation offer different perspectives related to generating a large number of items with

controlled psychometric properties including the latest development of using machine learning methods. Automated scoring is illustrated for different types of assessments such as speaking and writing from both methodological aspects and practical considerations. Further, automated test assembly is elaborated for the conventional linear tests from both classical test theory and item response theory perspectives. Item pool design and assembly for the linear-on-the-fly tests elaborates more complications in practice when test security is a big concern. Finally, several chapters focus on computerized adaptive testing (CAT) at either item or module levels. CAT is further illustrated as an effective approach to increasing test-takers' engagement in testing. In summary, the book includes both theoretical, methodological, and applied research and practices that serve as the foundation for future development. These chapters provide illustrations of efforts to automate the process of test development. While some of these automation processes have become common practices such as automated test assembly, automated scoring, and computerized adaptive testing, some others such as automated item generation calls for more research and exploration. When new AI methods are emerging and evolving, it is expected that researchers can expand and improve the methods for automating different steps in test development to enhance

the automation features and practitioners can adopt quality automation procedures to improve assessment practices.

"This book aims to bring together leading academic scientists, researchers, and research scholars to exchange and share their experiences and research results on all aspects of Artificial Intelligence. The book provides a premier interdisciplinary platform to present practical challenges and adopted solutions. The book addresses the complete functional framework workflow in Artificial Intelligence technology. It explores the basic and high-level concepts and can serve as a manual for the industry for beginners and the more advanced. It covers intelligent and automated systems and its implications to the real-world, and offers data acquisition and case studies related to dataintensive technologies in AI-based applications. The book will be of interest to researchers, professionals, scientists, professors, students of computer science engineering, electronics and communications, as well as information technology"--

The two-volume set LNCS 3561 and LNCS 3562 constitute the refereed proceedings of the First International Work-Conference on the Interplay between Natural and Artificial Computation, IWINAC 2005, held in Las Palmas, Canary Islands, Spain in June 2005. The 118 revised papers presented are thematically divided into

two volumes; the first includes all the contributions mainly related with the methodological, conceptual, formal, and experimental developments in the fields of Neurophysiology and cognitive science. The second volume collects the papers related with bioinspired programming strategies and all the contributions related with the computational solutions to engineering problems in different application domains.

Applications of Artificial Intelligence Techniques in the Petroleum Industry

Applications of Artificial Intelligence in Business, Education and Healthcare

Artificial Intelligence for Sustainable

Development: Theory, Practice and Future

Applications

8th Hellenic Conference on AI, SETN 2014, Ioannina, Greece, May, 15-17, 2014, Proceedings Artificial Intelligence (AI)

Proceedings of First Global Conference on Artificial Intelligence and Applications (GCAIA 2020)

"This book seeks to examine the efforts made to bridge the gap between student and educator with computer applications through an in-depth discussion of applications employed to overcome the problems encountered during educational processes"--Provided by publisher.

Artificial Intelligence in Accounting: Practical

Applications was written with a simple goal: to provide accountants with a foundational understanding of AI and its many business and accounting applications. It is meant to serve as a guide for identifying opportunities to implement AI initiatives to increase productivity and profitability. This book will help you answer questions about what AI is and how it is used in the accounting profession today. Offering practical guidance that you can leverage for your organization, this book provides an overview of essential AI concepts and technologies that accountants should know, such as machine learning, deep learning, and natural language processing. It also describes accounting-specific applications of robotic process automation and text mining. Illustrated with case studies and interviews with representatives from global professional services firms, this concise volume makes a significant contribution to examining the intersection of AI and the accounting profession. This innovative book also explores the challenges and ethical considerations of AI. It will be of great interest to accounting practitioners, researchers, educators, and students.

This book constitutes the proceedings of the 8th Hellenic Conference on Artificial Intelligence, SETN 2014, held in Ioannina, Greece, in May 2014. There are 34 regular papers out of 60 submissions, in addition 5 submissions were accepted as short papers and 15 papers were accepted for four special sessions. They deal with emergent topics of artificial intelligence and come from the SETN main conference as well as from the following

special sessions on action languages: theory and practice; computational intelligence techniques for bio signal Analysis and evaluation; game artificial intelligence; multimodal recommendation systems and their applications to tourism.

This book presents best selected papers presented at the First Global Conference on Artificial Intelligence and Applications (GCAIA 2020), organized by the University of Engineering & Management, Jaipur, India, during 8–10 September 2020. The proceeding will be targeting the current research works in the domain of intelligent systems and artificial intelligence.

Applications of Artificial Intelligence in Additive Manufacturing Smart Operation Management

Modern Trends

Step-by-Step Guide from Beginner to Expert SIGMA 2018, Volume 2

Building Machine Learning Powered Applications
This book is an up-to-date collection,
in AI and environmental research,
related to the project ATLAS. AI is
used for gaining an understanding of
complex research phenomena in the
environmental sciences, encompassing
heterogeneous, noisy, inaccurate,
uncertain, diverse spatio-temporal data
and processes. The first part of the
book covers new mathematics in the

field of AI: aggregation functions with special classes such as triangular norms and copulas, pseudo-analysis, and the introduction to fuzzy systems and decision making. Generalizations of the Choquet integral with applications in decision making as CPT are presented. The second part of the book is devoted to AI in the geo-referenced air pollutants and meteorological data, image processing, machine learning, neural networks, swarm intelligence, robotics, mental well-being and data entry errors. The book is intended for researchers in AI and experts in environmental sciences as well as for Ph.D. students.

A straightforward, non-technical guide to the next major marketing tool
Artificial Intelligence for Marketing presents a tightly-focused introduction to machine learning, written specifically for marketing professionals. This book will not teach you to be a data scientist-but it does explain how Artificial Intelligence and Machine Learning will revolutionize your company's marketing strategy, and teach you how to use it most

effectively. Data and analytics have become table stakes in modern marketing, but the field is everevolving with data scientists continually developing new algorithms-where does that leave you? How can marketers use the latest data science developments to their advantage? This book walks you through the "need-to-know" aspects of Artificial Intelligence, including natural language processing, speech recognition, and the power of Machine Learning to show you how to make the most of this technology in a practical, tactical way. Simple illustrations clarify complex concepts, and case studies show how real-world companies are taking the next leap forward. Straightforward, pragmatic, and with no math required, this book will help you: Speak intelligently about Artificial Intelligence and its advantages in marketing Understand how marketers without a Data Science degree can make use of machine learning technology Collaborate with data scientists as a subject matter expert to help develop focused-use applications Help your

company gain a competitive advantage by leveraging leading-edge technology in marketing Marketing and data science are two fast-moving, turbulent spheres that often intersect; that intersection is where marketing professionals pick up the tools and methods to move their company forward. Artificial Intelligence and Machine Learning provide a data-driven basis for more robust and intensely-targeted marketing strategies-and companies that effectively utilize these latest tools will reap the benefit in the marketplace. Artificial Intelligence for Marketing provides a nontechnical crash course to help you stay ahead of the curve.

Although the effort to involve women in engineering has risen in recent years with the creation of new initiatives and the promotion of inclusion in technical disciplines, the active participation of women in engineering professions is continuously lower than expected. While the need for engineers appears to be constantly increasing, women still do not fill most of this role and have a long way to go to even

reach an equal split in the field. This gender gap has a significant impact how women in the STEM fields are perceived as well as their experiences in their education and careers. When it comes to Latin American women in IT, their contribution to science can go unnoticed, their participation levels in these fields are very low, and they often occupy lower-level positions than their male counterparts. These issues need to be discussed, and the experiences of women who work in the field must be shared. Latin American Women and Research Contributions to the IT Field highlights the important role of Latin American women in IT by collecting and disseminating their frontier-research contributions in order to provide more visibility and inspire greater participation of Latin American women within the major field of computer science. With chapters contributed by female authors from eight Latin American and Caribbean countries, the book provides a deep analysis of these women's trajectory paths to high quality theoretical and applied relevant research in computer Page 24/34

science and IT. While highlighting areas such as inclusivity and STEM education, along with advancements and achievements in topics that include nonverbal interaction in virtual reality, fuzzy logic applications in education, and ant colony optimization, this book is ideal for professionals, academics, students, and researchers working in the fields of information technologies and computer science as well as those interested in gender and women's studies.

This comprehensive reference text discusses the fundamental concepts of artificial intelligence and its applications in a single volume. Artificial Intelligence: Fundamentals and Applications presents a detailed discussion of basic aspects and ethics in the field of artificial intelligence and its applications in areas, including electronic devices and systems, consumer electronics, automobile engineering, manufacturing, robotics and automation, agriculture, banking, and predictive analysis. Aimed at senior undergraduate and graduate students in the field of electrical

engineering, electronics engineering, manufacturing engineering, pharmacy, and healthcare, this text: Discusses advances in artificial intelligence and its applications. Presents the predictive analysis and data analysis using artificial intelligence. Covers the algorithms and pseudo-codes for different domains. Discusses the latest development of artificial intelligence in the field of practical speech recognition, machine translation, autonomous vehicles, and household robotics. Covers the applications of artificial intelligence in fields, including pharmacy and healthcare, electronic devices and systems, manufacturing, consumer electronics, and robotics.

Fundamentals and Applications
Applications of Artificial Intelligence
Techniques in Engineering
Application of Artificial Intelligence
to Assessment

Research and Applications
Applications of Artificial Intelligence
and Machine Learning
Artificial Intelligence for Business
Optimization

After decades of basic research and more promises than impressive applications, artificial intelligence (AI) is starting to deliver benefits. A convergence of advances is motivating this new surge of AI development and applications. Computer capability as it has evolved from high throughput and high performance computing systems is increasing. AI models and operations research adaptations are becoming more mature, and the world is breeding big data not only from the web and social media but also from the Internet of Things. Organizations around the world have been realizing that there are substantial performance gains and increases in productivity for the use of AI and predictive analytics techniques. Their use is bringing a new era of breakthrough innovation and opportunities. This book, compiles research insights and applications in diverse areas such as manufacturing, supply chain management, pricing, autonomous vehicles, healthcare, ecommerce, and aeronautics. Using classical and advanced tools in AI such as deep learning, particle swarm optimization, support vector machines and genetic programming among others. This is a very distinctive book which discusses important applications using a variety of paradigms

from AI and outlines some of the research to be performed. The work supersedes similar books that do not cover as diversified a set of sophisticated applications. The authors present a comprehensive and articulated view of recent developments, identifies the applications gap by quoting from the experience of experts, and details suggested research areas. Artificial Intelligence: **Advances in Research and Applications** quides the reader through an intuitive understanding of the methodologies and tools for building and modeling intelligent systems. The book's coverage is broad, starting with clustering techniques with unsupervised ensemble learning, where the optimal combination strategy of individual partitions is robust in comparison to the selection of an algorithmic clustering pool. This is followed by a case in a paralleldistributed simulator using deep learning for its configuration. Chapter Three presents a case for autonomous vehicles. Chapter Four discusses the novel use of genetic algorithms with support vector machines. Chapters Five through Thirteen focus on the applications. The book discusses how the use of AI can allow for productivity development and other benefits not just for businesses, but also for economies. Finally, you can find an

interesting investigation of the transhuman dimension of 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.

"This book addresses the difficulties and challenges that various fields have faced in implementing artificial intelligence for smart technology"--

This book gathers the refereed proceedings of the Artificial Intelligence and Industrial Applications (A2IA'2020), the first

installment of an annual international conference organized by the ENSAM-Meknes at Moulay Ismail University, Morocco. The 30 papers presented here were carefully reviewed and selected from 141 submissions by an international scientific committee. They address various aspects of artificial intelligence such as smart manufacturing, smart maintenance, smart supply chain management, supervised learning, unsupervised learning, reinforcement learning, graph-based and semi-supervised learning, neural networks, deep learning, planning and optimization, and other AI applications. The book is intended for AI experts, offering them a valuable overview of the status quo and a global outlook for the future, with many new and innovative ideas and recent important developments in AI applications, both of a foundational and practical nature. It will also appeal to non-experts who are curious about this timely and important subject. Artificial Intelligence for All **Artificial Intelligence and Industrial Applications** Researches and Applications of Artificial **Intelligence to Mitigate Pandemics** Going from Idea to Product Medical Applications of Artificial Intelligence

Artificial Intelligence for Marketing Artificial Intelligence, the Revolutionary Transformation that no one can escape DESCRIPTION The book 'Artificial Intelligence for All' is a snapshot of Al applications in different industries, society, and everyday life. The book is written considering possibilities AI can bring in the Indian context and considering Indian industries and economy at the center stage. The book starts with describing the race for the supremacy of different countries in the field of Artificial Intelligence that has already taken a great momentum and how Al has managed to influence even mainstream politics and the world leaders. In the subsequent chapters, the book brings in Al applications primarily in the Banking and Finance sectors like Financial Crime detection using AI, Credit Risk Assessment, AIpowered conversational banking, Predictive Analytics, and recommendations in Banking and Finance. In few of the chapters, it goes deep into Machine Learning, Deep Learning, Neural Network and analogy with the human brain for readers who wants to go deeper into the subject, at the same time the content and explanations remain very simple for non-technical readers. How AI is powering the selfdriving autonomous vehicles and its implication in the society, job, and the world economy, and it's transforming the world of home automation, will be another area of interest in the book. A full chapter is dedicated for CIOs and CTOs to consider AI top in their priority list. Applications of AI in Sports are

going to be interesting for sports lovers as well as professionals working in the Sports and Computer Games domain. The book also gives special emphasis on Conversational Al like Virtual Assistances and ChatBots and their utility in different sectors. A chapter dedicated for healthcare and medicine provides a complete overview of Al applications in the field and how it's transforming clinical imaging, personalized medicines, drug discovery, and predictions and forecasting healthrelated events and many more. Cognitive Cyber Security using AI and Machine Learning would be an area of interest for the readers in the field of Cyber Security. The chapter talks about various modern cognitive cybersecurity tools and techniques to fight with the ever-evolving cybercrime space. 'Journey of a Digital Traveler' describes how AI is transforming the travel and tourism industry. The book also includes top 100 business use cases which illustrate possible applications in various fields. KEY FEATURES Provides perfect 'playground' for enterprises and institutions globally to develop Artificial Intelligence solutions The world has achieved an enormous amount of technological advancement and skyrocketing progress in mass Digitization, Data Science, and FinTech The gist of the golden era of Al and FinTech Al-powered autonomous vehicles are undoubtedly the future. Autonomous vehicles are the dawn of a whole new lifestyle Using Artificial Intelligence to redefine their products, processes and strategies Providing

banking and financial services to the customers through a variety of digital channels A preliminary quide for enterprises and businesses to revisit their Al strategy WHAT WILL YOU LEARN This book is for both technical and non-technical readers, a cutting edge technology like Artificial Intelligence is simplified for all and a genuine effort has been made to democratize it as much as possible. The book will provide insights into the real applications of Al in different industries like health care and medicine, banking and finance, manufacturing, retail, sports, and many more, including how it's transforming our life which probably many of us are not even aware of. And most importantly how a country like India can be benefited by embracing this groundbreaking technology and the huge opportunities and economic impact that AI can bring. Also, you will get to know how different countries like USA, CHINA, UK, EUROPE, RUSSIA, including INDIA is already in the race of being Al Superpower; because Al is the future and whoever becomes the leader in AI will become the ruler of the world. WHO THIS BOOK IS FOR This book is useful for AI Professionals, Data Scientists..... The content of the book is for both Technical and Non Technical readers who wants to know the applications of AI in different industries. No prior technical or programming experience is required to understand this book. This book can be used as a hand book for Data Scientist and Business SMEs who are in the process of identifying different use cases of Artificial Intelligence in their respective

domains. TABLE OF CONTENTS 1. Super Powers of AI – The Leaders and the Contenders 2. AI – The Core Fabric for NextGen Banking 3. How an Al Framework can be a Game-Changer in Your Al Journey 4. Artificial Neural Networks 5. The Next Wave of Automation will Transform our Living Experience 6. Self-Driving Cars – Socio Economic Impact of Autonomous Vehicles 7. How Artificial Intelligence is Transforming the BFSI Sector 43 8. Al Now is a Race Among Startups and Tech Giants 9. Al in the top of priorities for CIOs and CTOs 10. Al in Sports 11. How a Country can be Transformed Using Artificial Intelligence 12. Don't Underestimate the Power of an Al Chatbot 13. Industry Adoption of Cognitive and Artificial Intelligence 14. Artificial Intelligence – The Biggest Disruptor in the BFSI Industry 15. Al in Healthcare 16. Al in Cyber Security - Cognitive Cyber Defense 17. Be Aware of Cyber Threat 18. Al Revolution in India – National Strategy for AI 19. AI in Tour and Travels - Journey of a Digital Traveler 20. Top 100 Business Use Cases of Artificial Intelligence 21. T Impact of Modern Automation on Employment