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542 - ANGELO LIZETH

What is AI? Artificial intelligence is intelligence demonstrated by machines, unlike the natural intelligence displayed by humans and animals, which involves consciousness and emotionality. The distinction between the former and the latter categories is often revealed by the acronym chosen. What is ML ? Machine learning is the study of computer algorithms that improve automatically through experience. It is seen as a part of artificial intelligence Enjoy this introductory ebook

The Era of Artificial Intelligence, Machine Learning and Data Science in the Pharmaceutical Industry examines the drug discovery process, assessing how new technologies have improved effectiveness. Artificial intelligence and machine learning are considered the future for a wide range of disciplines and industries, including the pharmaceutical industry. In an environment where producing a single approved drug costs millions and takes many years of rigorous testing prior to its approval, reducing costs and time is of high interest. This book follows the journey that a drug company takes when producing a therapeutic, from the very beginning to ultimately benefitting a patient's life. This comprehensive resource will be useful to those working in the pharmaceutical industry, but will also be of interest to anyone doing research in chemical biology, computational chemistry, medicinal chemistry and bioinformatics. Demonstrates how the prediction of toxic effects is performed, how to reduce costs in testing compounds, and its use in animal research Written by the industrial teams who are conducting the work, showcasing how the technology has improved and where it should be further improved Targets materials for a better understanding of techniques from different disciplines, thus creating a complete guide

Recent advances in computational algorithms, along with the advent of whole slide imaging as a platform for embedding artificial intelligence (AI), are transforming pattern recognition and image interpretation for diagnosis and prognosis. Yet most pathologists have just a passing knowledge of data mining, machine learning, and AI, and little exposure to the vast potential of these powerful new tools for medicine in general and pathology in particular. In Artificial Intelligence and Deep Learning in Pathology, Dr. Stanley Cohen covers the nuts and bolts of all aspects of machine learning, up to and including AI, bringing familiarity and understanding to pathologists at all levels of experience. Focuses heavily on applications in medicine, especially pathology, making unfamiliar material accessible and avoiding complex mathematics whenever possible. Covers digital pathology as a platform for primary diagnosis and augmentation via deep learning, whole slide imaging for 2D and 3D analysis, and general principles of image analysis and deep learning. Discusses and explains recent accomplishments such as algorithms used to diagnose skin cancer from photographs, AI-based platforms developed to identify lesions of the retina, using computer vision to interpret electrocardiograms, identifying mitoses in cancer using learning algorithms vs. signal processing algorithms, and many more.

The next big area within the information and communication technology field is Artificial Intelligence (AI). The industry is moving to automate networks, cloud-based systems (e.g., Salesforce), databases (e.g., Oracle), AWS machine learning (e.g., Amazon Lex), and creating infrastructure that has the ability to adapt in real-time to changes and learn what to anticipate in the future. It is an area of technology that is coming faster and penetrating more areas of business than any other in our history. AI will be used from the C-suite to the distribution warehouse floor. Replete with case studies, this book provides a working knowledge of AI's current and future capabilities and the impact it will have on every business. It covers everything from healthcare to warehousing, banking, finance and education. It is essential reading for anyone involved in industry.

Lifelong Machine Learning, Second Edition is an introduction to an advanced machine learning paradigm that continuously learns by accumulating past knowledge that it then uses in future learning and problem solving. In contrast, the current dominant machine learning paradigm learns in isolation: given a training dataset, it runs a machine learning algorithm on the dataset to produce a model that is then used in its intended application. It makes no attempt to retain the learned knowledge and use it in subsequent learning. Unlike this isolated system, humans learn effectively with only a few examples precisely because our learning is very knowledge-driven: the knowledge learned in the past helps us learn new things with little data or effort. Lifelong learning aims to emulate this capability, because without it, an AI system cannot be considered truly intelligent. Research in lifelong learning has developed significantly in the relatively short time since the first edition of this book was published. The purpose of this second edition is to expand the definition of lifelong learning, update the content of several chapters, and add a new chapter about continual learning in deep neural networks—which has been actively researched over the past two or three years. A few chapters have also been reorganized to make each of them more coherent for the reader. Moreover, the authors want to propose a unified framework for the research area. Currently, there are several research topics in machine learning that are closely related to lifelong learning—most notably, multi-task learning, transfer learning, and meta-learning—because they also employ the idea of knowledge sharing and transfer. This book brings all these topics under one roof and discusses their similarities and differences. Its goal is to introduce this emerging machine learning paradigm and present a comprehensive survey and review of the important research results and latest ideas in the area. This book is thus suitable for students, researchers, and practitioners who are interested in machine learning, data mining, natural language processing, or pattern recognition. Lecturers can readily use the book for courses in any of these related fields. Machine Learning and Artificial Intelligence in Marketing and Sales explores the ideas, and the statistical and mathematical concepts, behind Artificial Intelligence (AI) and machine learning models, as applied to marketing and sales, without getting lost in the details of mathematical derivations and computer programming.

The first edition of this popular textbook, Contemporary Artificial Intelligence, provided an accessible and student friendly introduction to AI. This fully revised and expanded update, Artificial Intelligence: With an Introduction to Machine Learning, Second Edition, retains the same accessibility and problem-solving approach, while providing new material and methods. The book is divided into five sections that focus on the most useful techniques that have emerged from AI. The first section of the book covers logic-based methods, while the second section focuses on probability-based methods. Emergent intelligence is featured in the third section and explores evolutionary computation and methods based on swarm intelligence. The newest section comes next and provides a detailed overview of neural networks and deep learning. The final section of the book focuses on natural language understanding. Suitable for undergraduate and beginning graduate students, this class-tested textbook provides students and other readers with key AI methods and algorithms for solving challenging problems involving systems that behave intelligently in specialized domains such as medical and software diagnostics, financial decision making, speech and text recognition, genetic analysis, and more.

This book reviews the application of artificial intelligence and machine learning in healthcare. It discusses integrating the principles of computer science, life science, and statistics incorporated into statistical models using existing data, discovering patterns in data to extract the information, and predicting the changes and diseases based on this data and models. The initial chapters of the book cover the practical applications of artificial intelligence for disease prognosis & management. Further, the role of artificial intelligence and machine learning is discussed with reference to specific diseases like diabetes mellitus, cancer, mycobacterium tuberculosis, and Covid-19. The chapters provide working examples on how different types of healthcare data can be used to develop models and predict diseases using machine learning and artificial intelligence. The book also touches upon precision medicine, personalized medicine, and transfer learning, with the real examples. Further, it also discusses the use of machine learning and artificial intelligence for visualization, prediction, detection, and diagnosis of Covid -19. This book is a valuable source of information for programmers, healthcare professionals, and researchers interested in understanding the applications of artificial intelligence and machine learning in healthcare.

Create AI applications in Python and lay the foundations for your career in data science Key FeaturesPractical examples that explain key machine learning algorithmsExplore neural networks in detail with interesting examplesMaster core AI concepts with engaging activitiesBook Description Machine learning and neural networks are pillars on which you can build intelligent applications. Artificial Intelligence and Machine Learning Fundamentals begins by introducing you to Python and discussing AI search algorithms. You will cover in-depth mathematical topics, such as regression and classification, illustrated by Python examples. As you make your way through the book, you will progress to advanced AI techniques and concepts, and work on real-life datasets to form decision trees and clusters. You will be introduced to neural networks, a powerful tool based on Moore's law. By the end of this book, you will be confident when it comes to building your own AI applications with your newly acquired skills! What you will learnUnderstand the importance, principles, and fields of AIImplement basic artificial intelligence concepts with PythonApply regression and classification concepts to real-world problemsPerform predictive analysis using decision trees and random forestsCarry out clustering using the k-means and mean shift algorithmsUnderstand the fundamentals of deep learning via practical examplesWho this book is for Artificial Intelligence and Machine Learning Fundamentals is for software developers and data scientists who want to enrich their projects with machine learning. You do not need any prior experience in AI. However, it's recommended that you have knowledge of high school-level mathematics and at least one programming language (preferably Python).

If you're looking to make a career move from programmer to AI specialist, this is the ideal place to start. Based on Laurence Moroney's extremely successful AI courses, this introductory book provides a hands-on, code-first approach to help you build confidence while you learn key topics. You'll understand how to implement the most common scenarios in machine learning, such as computer vision, natural language processing (NLP), and sequence modeling for web, mobile, cloud, and embedded runtimes. Most books on machine learning begin with a daunting amount of advanced math. This guide is built on practical lessons that let you work directly with the code. You'll learn: How to build models with TensorFlow using skills that employers desire The basics of machine learning by working with code samples How to implement computer vision, including feature detection in images How to use NLP to tokenize and sequence words and sentences Methods for embedding models in Android and iOS How to serve models over the web and in the cloud with TensorFlow Serving

This book provides comprehensive coverage of combined Artificial Intelligence (AI) and Machine Learning (ML) theory and applications. Rather than looking at the field from only a theoretical or only a practical perspective, this book unifies both perspectives to give holistic understanding. The first part introduces the concepts of AI and ML and their origin and current state. The second and third parts delve into conceptual and theoretic aspects of static and dynamic ML techniques. The forth part describes the practical applications where presented techniques can be applied. The fifth part introduces the user to some of the implementation strategies for solving real life ML problems. The book is appropriate for students in graduate and upper undergraduate courses in addition to researchers and professionals. It makes minimal use of mathematics to make the topics more intuitive and accessible. Presents a full reference to artificial intelligence and machine learning techniques - in theory and application; Provides a guide to AI and ML with minimal use of mathematics to make the topics more intuitive and accessible; Connects all ML and AI techniques to applications and introduces implementations.

Discover the role of machine learning and artificial intelligence in business forecasting from some of the brightest minds in the field In Business Fore-

casting: The Emerging Role of Artificial Intelligence and Machine Learning accomplished authors Michael Gilliland, Len Tashman, and Udo Sglavo deliver relevant and timely insights from some of the most important and influential authors in the field of forecasting. You'll learn about the role played by machine learning and AI in the forecasting process and discover brand-new research, case studies, and thoughtful discussions covering an array of practical topics. The book offers multiple perspectives on issues like monitoring forecast performance, forecasting process, communication and accountability for forecasts, and the use of big data in forecasting. You will find: Discussions on deep learning in forecasting, including current trends and challenges Explorations of neural network-based forecasting strategies A treatment of the future of artificial intelligence in business forecasting Analyses of forecasting methods, including modeling, selection, and monitoring In addition to the Foreword by renowned researchers Spyros Makridakis and Fotios Petropoulos, the book also includes 16 "opinion/editorial" Afterwords by a diverse range of top academics, consultants, vendors, and industry practitioners, each providing their own unique vision of the issues, current state, and future direction of business forecasting. Perfect for financial controllers, chief financial officers, business analysts, forecast analysts, and demand planners, Business Forecasting will also earn a place in the libraries of other executives and managers who seek a one-stop resource to help them critically assess and improve their own organization's forecasting efforts.

This book begins with an introduction to AI, followed by machine learning, deep learning, NLP, and reinforcement learning. Readers will learn about machine learning classifiers such as logistic regression, k-NN, decision trees, random forests, and SVMs. Next, the book covers deep learning architectures such as CNNs, RNNs, LSTMs, and auto encoders. Keras-based code samples are included to supplement the theoretical discussion. In addition, this book contains appendices for Keras, TensorFlow 2, and Pandas. Features: Covers an introduction to programming concepts related to AI, machine learning, and deep learning Includes material on Keras, TensorFlow2 and Pandas

This new volume, Empowering Artificial intelligence Through Machine Learning: New Advances and Applications, discusses various new applications of machine learning, a subset of the field of artificial intelligence. Artificial intelligence is considered to be the next-big-game changer in research and technology, The volume looks at how computing has enabled machines to learn, making machine and tools become smarter in many sectors, including science and engineering, healthcare, finance, education, gaming, security, and even agriculture, plus many more areas. Topics include techniques and methods in artificial intelligence for making machines intelligent, machine learning in healthcare, using machine learning for credit card fraud detection, using artificial intelligence in education using gaming and automatization with courses and outcomes mapping, and much more. The book will be valuable to professionals, faculty, and students in electronics and communication engineering, telecommunication engineering, network engineering, computer science and information technology.

Neural networks have been a mainstay of artificial intelligence since its earliest days. Now, exciting new technologies such as deep learning and convolution are taking neural networks in bold new directions. In this book, we will demonstrate the neural networks in a variety of real-world tasks such as image recognition and data science. We examine current neural network technologies, including ReLU activation, stochastic gradient descent, cross-entropy, regularization, dropout, and visualization.

This book is dedicated to addressing the major challenges in fighting COVID-19 using artificial intelligence (AI) and machine learning (ML) – from cost and complexity to availability and accuracy. The aim of this book is to focus on both the design and implementation of AI-based approaches in proposed COVID-19 solutions that are enabled and supported by sensor networks, cloud computing, and 5G and beyond. This book presents research that contributes to the application of ML techniques to the problem of computer communication-assisted diagnosis of COVID-19 and similar diseases. The authors present the latest theoretical developments, real-world applications, and future perspectives on this topic. This book brings together a broad multidisciplinary community, aiming to integrate ideas, theories, models, and techniques from across different disciplines on intelligent solutions/systems, and to inform how cognitive systems in Next Generation Networks (NGN) should be designed, developed, and evaluated while exchanging and processing critical health information. Targeted readers are from varying disciplines who are interested in implementing the smart planet/environments vision via wireless/wired enabling technologies.

Create AI applications in Python and lay the foundations for your career in data science Key Features Practical examples that explain key machine learning algorithms Explore neural networks in detail with interesting examples Master core AI concepts with engaging activities Book Description Machine learning and neural networks are pillars on which you can build intelligent applications. Artificial Intelligence and Machine Learning Fundamentals begins by introducing you to Python and discussing AI search algorithms. You will cover in-depth mathematical topics, such as regression and classification, illustrated by Python examples. As you make your way through the book, you will progress to advanced AI techniques and concepts, and work on real-life datasets to form decision trees and clusters. You will be introduced to neural networks, a powerful tool based on Moore's law. By the end of this book, you will be confident when it comes to building your own AI applications with your newly acquired skills! What you will learn Understand the importance, principles, and fields of AI Implement basic artificial intelligence concepts with Python Apply regression and classification concepts to real-world problems Perform predictive analysis using decision trees and random forests Carry out clustering using the k-means and mean shift algorithms Understand the fundamentals of deep learning via practical examples Who this book is for Artificial Intelligence and Machine Learning Fundamentals is for software developers and data scientists who want to enrich their projects with machine learning. You do not need any prior experience in AI. However, it's recommended that you have knowledge of high school-level mathematics and at least one programming language (preferably Python).

Progress in the application of machine learning (ML) to the physical and life sciences has been rapid. A decade ago, the method was mainly of interest to those in computer science departments, but more recently ML tools have been developed that show significant potential across wide areas of science. There is a growing consensus that ML software, and related areas of artificial intelligence, may, in due course, become as fundamental to scientific research as computers themselves. Yet a perception remains that ML is obscure or esoteric, that only computer scientists can really understand it, and that few meaningful applications in scientific research exist. This book challenges that view. With contributions from leading research groups, it presents in-depth examples to illustrate how ML can be applied to real chemical problems. Through these examples, the reader can both gain a feel

for what ML can and cannot (so far) achieve, and also identify characteristics that might make a problem in physical science amenable to a ML approach. This text is a valuable resource for scientists who are intrigued by the power of machine learning and want to learn more about how it can be applied in their own field.

The concept of Artificial Intelligence (AI) & Machine Learning (ML) has been in practice for over years with the advent of technological progress. Over time, it has blended our lives through nearly every narration of learning, teaching, enjoyment, normal routine operations and what not. The aspect delivers a common understanding of the topics with reference to it making an impact on our lives, with a better framework of technology affecting our lives in particular. Let us look up to science for a change to be brought about in us. Let us create awareness of making technology available to people, in a broader sense. As that happens, people who are responsible need to be told about the use and misuse of the same. As we lead our lives, we come across the fact that AI, Robotics and Learning Machines seem to be the household topic of discussion. Earlier, AI was perceived to be reserved for only 'Geniuses' or 'Researchers' or the 'computer' community, but it very aptly integrates and impacts each and every aspect of our lives. Knowingly or unknowingly, it has become intellectually influential in shaping our thoughts, actions and the day-to-day chores.

Artificial Intelligence, Machine Learning, and Mental Health in Pandemics: A Computational Approach provides a comprehensive guide for public health authorities, researchers and health professionals in psychological health. The book takes a unique approach by exploring how Artificial Intelligence (AI) and Machine Learning (ML) based solutions can assist with monitoring, detection and intervention for mental health at an early stage. Chapters include computational approaches, computational models, machine learning based anxiety and depression detection and artificial intelligence detection of mental health. With the increase in number of natural disasters and the ongoing pandemic, people are experiencing uncertainty, leading to fear, anxiety and depression, hence this is a timely resource on the latest updates in the field. Examines the datasets and algorithms that can be used to detect mental disorders Covers machine learning solutions that can help determine the precautionary measures of psychological health problems Highlights innovative AI solutions and bi-statistics computation that can strengthen day-to-day medical procedures and decision-making

"The authors' clear visual style provides a comprehensive look at what's currently possible with artificial neural networks as well as a glimpse of the magic that's to come." –Tim Urban, author of Wait But Why Fully Practical, Insightful Guide to Modern Deep Learning Deep learning is transforming software, facilitating powerful new artificial intelligence capabilities, and driving unprecedented algorithm performance. Deep Learning Illustrated is uniquely intuitive and offers a complete introduction to the discipline's techniques. Packed with full-color figures and easy-to-follow code, it sweeps away the complexity of building deep learning models, making the subject approachable and fun to learn. World-class instructor and practitioner Jon Krohn–with visionary content from Grant Beyleveld and beautiful illustrations by Aglaé Bassens–presents straightforward analogies to explain what deep learning is, why it has become so popular, and how it relates to other machine learning approaches. Krohn has created a practical reference and tutorial for developers, data scientists, researchers, analysts, and students who want to start applying it. He illuminates theory with hands-on Python code in accompanying Jupyter notebooks. To help you progress quickly, he focuses on the versatile deep learning library Keras to nimbly construct efficient TensorFlow models; PyTorch, the leading alternative library, is also covered. You'll gain a pragmatic understanding of all major deep learning approaches and their uses in applications ranging from machine vision and natural language processing to image generation and game-playing algorithms. Discover what makes deep learning systems unique, and the implications for practitioners Explore new tools that make deep learning models easier to build, use, and improve Master essential theory: artificial neurons, training, optimization, convolutional nets, recurrent nets, generative adversarial networks (GANs), deep reinforcement learning, and more Walk through building interactive deep learning applications, and move forward with your own artificial intelligence projects Register your book for convenient access to downloads, updates, and/or corrections as they become available. See inside book for details.

SPECIAL DEAL: 3 books in 1: Machine Learning, Artificial Intelligence for Business and Computer Networking! It's no doubt that machine learning, artificial intelligence, and deep learning have created a lot of buzz in the tech world. However, unlike many other buzz words that we forget about quickly, technological advancements have made AI, ML and deep learning a part of our daily lives. Furthermore, AI is here to stay, which is why if you are looking to learn about it, you need to make the most out of your learning. What better way to do this than with a 3 in 1 book bundle that takes you from zero to a future proof AI genius? This bundle contains the following books: ✓ Machine learning for Beginners - This book explains machine learning concepts in very simple terms for beginners. It will take you not only through ML, but also AI and deep learning concepts. ✓ Artificial intelligence for business - If you would like to know how you can use AI in your business, what the benefits of that would be and what the future of AI is in business, then you should read this book. You will also learn how modern companies in all industries are using AI and ML; and how you can craft your own AI strategy for your company. ✓ Computer Networking for Beginners - This final book will give you insights into the power of computer networking and show you how this power is harnessed in machine learning. At the end of it all, you will have solid knowledge on what networking is and how you can do it successfully. This 3 in 1 book bundle will give you the best value on your money. Scroll up, click on "Buy Now with 1-Click", and Get Your Copy NOW!

This book presents a compilation of selected papers from the 17th IEEE International Conference on Machine Learning and Applications (IEEE ICMLA 2018), focusing on use of deep learning technology in application like game playing, medical applications, video analytics, regression/classification, object detection/recognition and robotic control in industrial environments. It highlights novel ways of using deep neural networks to solve real-world problems, and also offers insights into deep learning architectures and algorithms, making it an essential reference guide for academic researchers, professionals, software engineers in industry, and innovative product developers.

This textbook presents a concise, accessible and engaging first introduction to deep learning, offering a wide range of connectionist models which represent the current state-of-the-art. The text explores the most popular algorithms and architectures in a simple and intuitive style, explaining the mathematical derivations in a step-by-step manner. The content coverage includes convolutional networks, LSTMs, Word2vec, RBMs, DBNs, neural Turing machines, memory networks and autoencoders. Numerous examples in working Python code are provided throughout the book, and the code is also supplied separately at an accompanying website. Topics and features: introduces the fundamentals of machine learning, and the mathematical and computational prerequisites for deep learning; discusses feed-forward neural networks, and explores the modifications to these which can be ap-

plied to any neural network; examines convolutional neural networks, and the recurrent connections to a feed-forward neural network; describes the notion of distributed representations, the concept of the autoencoder, and the ideas behind language processing with deep learning; presents a brief history of artificial intelligence and neural networks, and reviews interesting open research problems in deep learning and connectionism. This clearly written and lively primer on deep learning is essential reading for graduate and advanced undergraduate students of computer science, cognitive science and mathematics, as well as fields such as linguistics, logic, philosophy, and psychology.

This book discusses and evaluates AI and machine learning (ML) algorithms in dealing with challenges that are primarily related to public health. It also helps find ways in which we can measure possible consequences and societal impacts by taking the following factors into account: open public health issues and common AI solutions (with multiple case studies, such as TB and SARS: COVID-19), AI in sustainable health care, AI in precision medicine and data privacy issues. Public health requires special attention as it drives economy and education system. COVID-19 is an example—a truly infectious disease outbreak. The vision of WHO is to create public health services that can deal with abovementioned crucial challenges by focusing on the following elements: health protection, disease prevention and health promotion. For these issues, in the big data analytics era, AI and ML tools/techniques have potential to improve public health (e.g., existing healthcare solutions and wellness services). In other words, they have proved to be valuable tools not only to analyze/diagnose pathology but also to accelerate decision-making procedure especially when we consider resource-constrained regions.

Artificial Intelligence (AI) and Machine Learning are now mainstream business tools. They are being applied across many industries to increase profits, reduce costs, save lives and improve customer experiences. Organizations which understand these tools and know how to use them are benefiting at the expense of their rivals. Artificial Intelligence and Machine Learning for Business cuts through the hype and technical jargon that is often associated with these subjects. It delivers a simple and concise introduction for managers and business people. The focus is very much on practical application and how to work with technical specialists (data scientists) to maximize the benefits of these technologies. This third edition has been substantially revised and updated. It contains several new chapters and covers a broader set of topics than before, but retains the no-nonsense style of the original.

A hands-on, application-based introduction to machine learning and artificial intelligence (AI). Create compelling AI-powered games and applications using the Scratch programming language. AI Made Easy with 13 Projects Machine learning (also known as ML) is one of the building blocks of AI, or artificial intelligence. AI is based on the idea that computers can learn on their own, with your help. Machine Learning for Kids will introduce you to machine learning, painlessly. With this book and its free, Scratch-based companion website, you'll see how easy it is to add machine learning to your own projects. You don't even need to know how to code! Step by easy step, you'll discover how machine learning systems can be taught to recognize text, images, numbers, and sounds, and how to train your models to improve them. You'll turn your models into 13 fun computer games and apps, including: • A Rock, Paper, Scissors game that recognizes your hand shapes • A computer character that reacts to insults and compliments • An interactive virtual assistant (like Siri or Alexa) • A movie recommendation app • An AI version of Pac-Man There's no experience required and step-by-step instructions make sure that anyone can follow along! No Experience Necessary! Ages 12+

Artificial Intelligence (AI), when incorporated with machine learning and deep learning algorithms, has a wide variety of applications today. This book focuses on the implementation of various elementary and advanced approaches in AI that can be used in various domains to solve real-time decision-making problems. The book focuses on concepts and techniques used to run tasks in an automated manner. It discusses computational intelligence in the detection and diagnosis of clinical and biomedical images, covers the automation of a system through machine learning and deep learning approaches, presents data analytics and mining for decision-support applications, and includes case-based reasoning, natural language processing, computer vision, and AI approaches in real-time applications. Academic scientists, researchers, and students in the various domains of computer science engineering, electronics and communication engineering, and information technology, as well as industrial engineers, biomedical engineers, and management, will find this book useful. By the end of this book, you will understand the fundamentals of AI. Various case studies will develop your adaptive thinking to solve real-time AI problems. Features Includes AI-based decision-making approaches Discusses computational intelligence in the detection and diagnosis of clinical and biomedical images Covers automation of systems through machine learning and deep learning approaches and its implications to the real world Presents data analytics and mining for decision-support applications Offers case-based reasoning

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.

Data driven Artificial Intelligence (AI) and Machine Learning (ML) in digital pathology, radiology, and dermatology is very promising. In specific cases, for example, Deep Learning (DL), even exceeding human performance. However, in the context of medicine it is important for a human expert to verify the outcome. Consequently, there is a need for transparency and re-traceability of state-of-the-art solutions to make them usable for ethical responsible medical decision support. Moreover, big data is required for training, covering a wide spectrum of a variety of human diseases in different organ systems. These data sets must meet top-quality and regulatory criteria and must be well annotated for ML at patient-, sample-, and image-level. Here biobanks play a central and future role in providing large collections of high-quality, well-annotated samples and data. The main challenges are finding biobanks containing ''fit-for-purpose'' samples, providing quality related meta-data, gaining access to standardized medical data and annotations,

and mass scanning of whole slides including efficient data management solutions.

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.

Advances in Geophysics, Volume 61 - Machine Learning and Artificial Intelligence in Geosciences, the latest release in this highly-respected publication in the field of geophysics, contains new chapters on a variety of topics, including a historical review on the development of machine learning, machine learning to investigate fault rupture on various scales, a review on machine learning techniques to describe fractured media, signal augmentation to improve the generalization of deep neural networks, deep generator priors for Bayesian seismic inversion, as well as a review on homogenization for seismology, and more. Provides high-level reviews of the latest innovations in geophysics Written by recognized experts in the field Presents an essential publication for researchers in all fields of geophysics

Currently, Artificial Intelligence (AI) lives amongst the human population. They reside in smartphones. They help people find content on the internet. They learn the behavior of their owners and put out relevant, interesting content to enhance their owner's experience while they are browsing on the internet. In this book you will learn all about Artificial Intelligence and how it will affect your life in the near future. Learn exactly what Artificial Intelligence is Machine learning AI and The Internet Of Things Opportunities for Artificial Intelligence Intelligent IoT and much much more!

This book contains a selection of the best papers of the 32nd Benelux Conference on Artificial Intelligence, BNAIC/Benelearn 2020, held in Leiden, The Netherlands, in November 2020. Due to the COVID-19 pandemic the conference was held online. The 12 papers presented in this volume were carefully reviewed and selected from 41 regular submissions. They address various aspects of artificial intelligence such as natural language processing, agent technology, game theory, problem solving, machine learning, human-agent interaction, AI and education, and data analysis. The chapter 11 is published open access under a CC BY license (Creative Commons Attribution 4.0 International License) Chapter "Gaining Insight into Determinants of Physical Activity Using Bayesian Network Learning" is available open access under a Creative Commons Attribution 4.0 International License via link.springer.com..

This book provides a comprehensive, conceptual, and detailed overview of the wide range of applications of Artificial Intelligence, Machine Learning, and Data Science and how these technologies have an impact on various domains such as healthcare, business, industry, security, and how all countries around the world are feeling this impact. The book aims at low-cost solutions which could be implemented even in developing countries. It highlights the significant impact these technologies have on various industries and on us as humans. It provides a virtual picture of forthcoming better human life shadowed by the new technologies and their applications and discusses the impact Data Science has on business applications. The book will also include an overview of the different AI applications and their correlation between each other. The audience is graduate and postgraduate students, researchers, academicians, institutions, and professionals who are interested in exploring key technologies like Artificial Intelligence, Machine Learning, and Data Science.

The past decade has witnessed extraordinary advances in artificial intelligence. But what precisely is it and where does its future lie? In this brilliant, one-stop guide WIRED journalist Matt Burgess explains everything you need to know about AI. He describes how it works. He looks at the ways in which it has already brought us everything from voice recognition software to self-driving cars, and explores its potential for further revolutionary change in almost every area of our daily lives. He examines the darker side of machine learning: its susceptibility to hacking; its tendency to discriminate against particular groups; and its potential misuse by governments. And he addresses the fundamental question: can machines become as intelligent as human beings?

Artificial Intelligence and Machine Learning in Business Management The focus of this book is to introduce artificial intelligence (AI) and machine learning (ML) technologies into the context of business management. The book gives insights into the implementation and impact of AI and ML to business leaders, managers, technology developers, and implementers. With the maturing use of AI or ML in the field of business intelligence, this book examines several projects with innovative uses of AI beyond data organization and access. It follows the Predictive Modeling Toolkit for providing new insight on how to use improved AI tools in the field of business. It explores cultural heritage values and risk assessments for mitigation and conservation and discusses on-shore and off-shore technological capabilities with spatial tools for addressing marketing and retail strategies, and insurance and healthcare systems. Taking a multidisciplinary approach for using AI, this book provides a single comprehensive reference resource for undergraduate, graduate, business professionals, and related disciplines.