Machine Learning And Artificial Intelligence 2 Ma

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Elements of Data Science, Machine Learning, and Artificial Intelligence Using R Jones & Bartlett Learning

The ability to learn is one of the most fundamental attributes of intelligent behavior. Consequently, progress in the theory and computer modeling of learn ing processes is of great significance to fields concerned with understanding in telligence. Such fields include cognitive science, artificial intelligence, infor mation science, pattern recognition, psychology, education, epistemology, philosophy, and related disciplines. The recent observance of the silver anniversary of artificial intelligence has been heralded by a surge of interest in machine learning-both in building models of human learning and in understanding how machines might be endowed with the ability to learn. This renewed interest has spawned many new research projects and resulted in an increase in related scientific activities. In the summer of 1980, the First Machine Learning Workshop was held at Carnegie-Mellon University in Pittsburgh. In the same year, three consecutive issues of the International Journal of Policy Analysis and Information Systems were specially devoted to machine learning (No. 2, 3 and 4, 1980). In the spring of 1981, a special issue of the SIGART Newsletter No. 76 reviewed current research projects in the field. . This book contains tutorial overviews and research papers representative of contemporary trends in the area of machine learning as viewed from an artificial intelligence perspective. As the first available text on this subject, it is intended to fulfill several needs.

Demystifying Artificial intelligence Packt Publishing Ltd

Do you want to understand Neural Networks and learn everything about them but it looks like it is an exclusive club? Are you fascinated by Artificial Intelligence but you think that it would be too difficult for you to learn? If you think that Neural Networks and Artificial Intelligence are the present and, even more, the future of technology, and you want to be part of it... well you are in the right place, and you are looking at the right book. If you are reading these lines you have probably already noticed this: Artificial Intelligence is all around you. Your smartphone that suggests you the next word you want to type, your Netflix account that recommends you the series you may like or Spotify's personalised playlists. This is how machines are learning from you in everyday life. And these examples are only the surface of this technological revolution. Either if you want to start your own AI entreprise, to empower your business or to work in the greatest and most innovative companies, Artificial Intelligence is the future, and Neural Networks programming is the skill you want to have. The good news is that there is no exclusive club, you can easily (if you commit, of course) learn how to program and use neural networks, and to do that Neural Networks for Beginners is the perfect way. In this book you will learn: The types and components of neural networks The smartest way to approach neural network programming Why Algorithms are your friends The "three Vs" of Big Data (plus two new Vs) How machine learning will help you making predictions The three most common problems with Neural Networks and how to overcome them Even if you don't know anything about programming, Neural Networks is the perfect place to start now. Still, if you already know about programming but not about how to do it in Artificial Intelligence, neural networks are the next thing you want to learn. And Neural Networks for Beginners is the best way to do it. Download Neural Network for Beginners now to get the best start for your journey to Artificial Intelligence. Scroll to the top of the page and click the BUY NOW button.

Packt Publishing Ltd
Artificial Intelligence Illuminated presents an overview of the background and history of artificial intelligence, emphasizing its importance in today's society and potential for the future. The book covers a range of AI techniques, algorithms, and methodologies, including game playing, intelligent agents, machine learning, genetic algorithms, and Artificial Life. Material is presented in a lively and accessible manner and the author focuses on explaining how AI techniques relate to and are derived from natural systems, such as the human brain and evolution, and explaining how the artificial equivalents are used in the real world. Each chapter includes student exercises and review questions, and a detailed glossary at the end of the book defines important terms and concepts highlighted throughout the text.
Artificial Intelligence For Dummies Packt Publishing Ltd
Learn AI & Machine Learning from the first principles. KEY FEATURESÊÊ _ Explore how different industries are using AI and ML for diverse use-cases. _ Learn core concepts of Data Science, Machine Learning, Deep Learning and NLP in an easy and intuitive manner. _ Cutting-edge coverage on use of ML for business products and services. _ Explore how different companies are monetizing AI and ML technologies. _ Learn how you can start your own journey in the AI field from scratch. DESCRIPTION AI and machine learning (ML) are probably the most fascinating technologies of the 21st century. AI is literally in every industry now. From medical to climate change, education to sport, finance to entertainment, AI is disrupting every industry as we know. So, the basic knowledge of AI/ML becomes mandatory for everyone. This book is your first step to start the journey in this field. Along with basic concepts of fields, like machine learning, deep learning and NLP, we will also explore how big companies are using these technologies to deliver greater user experience and earning millions of dollars in profit. Also, we will see how the owners of small- or medium-sized businesses can leverage and integrate these technologies with their products and services. Leveraging AI and ML can become that competitive moat which can differentiate the product from others. In this book, you will learn the root concepts of AI/ML and how these inanimate machines can actually become smarter than the humans at a few tasks, and how companies are using AI and how you can leverage AI to earn profits. WHAT YOU WILL LEARN Ê _ Core concepts of data science, machine learning, deep learning and NLP in simple and intuitive words. _ How you can leverage and integrate AI technologies in your business to differentiate your product in the market. _ The limitations of traditional non-tech businesses and how AI can bridge those gaps to increase revenues and decrease costs. _ How AI can help companies in launching new products, improving existing ones and automating mundane processes. _ Explore how big tech companies are using AI to automate different tasks and providing unique product experiences to their users. WHO THIS BOOK IS FORÊÊ This book is for anyone who is curious about this fascinating technology and how it really works at its core. It is also beneficial to those who want to start their career in AI/ ML. TABLE OF CONTENTSÊ 1. Introduction 2. Going deeper in ML concepts 3. Business perspective of AI 4. How to get started and pitfalls to avoid
Artificial Intelligence BPB Publications
Primarily intended for the undergraduate and postgraduate students of computer science and engineering, this textbook (earlier titled as Artificial Intelligence and Machine Learning), now in its second edition, bridges the gaps in knowledge of the seemingly difficult areas of artificial intelligence. This book promises to provide the most number of case studies and worked-out examples among the books of its genre. The text is written in a highly interactive manner which fulfils the curiosity of any reader. Moreover, the content takes off from the introduction to artificial intelligence, which is followed by explaining about intelligent agents. Various problem-solving strategies, knowledge representation schemes are also included with numerous case studies and applications. Different aspects of learning, nature-inspired learning, along with natural language processing are also explained in depth. The algorithms and pseudo codes for each topic make this book useful for students. Book also throws light into areas like planning, expert system and robotics. Book concludes with futuristic artificial intelligence, which explains the fascinating applications, that the world will witness in coming years. KEY FEATURES • Day-to-day examples and practical representations for deeper understanding of the subject. • Learners can easily implement the AI applications. • Effective and useful case studies and worked-out examples for AI problems. Target Audience • Students of B.E./B.Tech Computer Science Engineering • Students of M.E./M.Tech Computer Science Engineering
Learn AI with Python Springer Nature
The textbook provides students with tools they need to analyze complex data using methods from data science, machine learning and artificial intelligence. The authors include both the presentation of methods along with applications using the programming language R, which is the gold standard for analyzing data. The authors cover all three main components of data science: computer science; mathematics and statistics; and domain knowledge. The book presents methods and implementations in R side-by-side, allowing the immediate practical application of the learning concepts. Furthermore, this teaches computational thinking in a natural way. The book includes exercises, case studies, Q&A and examples.
ARTIFICIAL INTELLIGENCE ALA TechSource
Step into the future with AI The term "Artificial Intelligence" has been around since the 1950s, but a lot has changed since then. Today, AI is referenced in the news, books, movies, and TV shows, and the exact definition is often misinterpreted. Artificial Intelligence For Dummies provides a clear introduction to AI and how it's being used today. Inside, you'll get a clear overview of the technology, the common misconceptions surrounding it, and a fascinating look at its applications in everything from self-driving cars and drones to its contributions in the medical field. Learn about what AI has contributed to society Explore uses for AI in computer applications Discover the limits of what AI can do Find out about the history of AI The world of AI is fascinating—and this hands-on guide makes it more accessible than ever!
Machine Learning Packt Publishing Ltd
Build AI applications using Python to intelligently interact with the world around you. KEY FEATURES ● Covers the practical aspects of Machine Learning and Deep Learning concepts with the help of this example-rich guide to Python. ● Includes graphical illustrations of Natural Language Processing and its implementation in NLTK. ● Covers deep learning models such as R-CNN and YOLO for object recognition and teaches how to build an image classifier using CNN. DESCRIPTION The book 'Learn AI with Python' is intended to provide you with a thorough understanding of artificial intelligence as well as the tools necessary to create your intelligent applications. This book introduces you to artificial intelligence and walks you through the process of establishing an AI environment on a variety of platforms. It dives into machine learning models and various predictive modeling techniques, including classification, regression, and clustering. Additionally, it provides hands-on experience with logic programming, ASR, neural networks, and natural language processing through real-world examples and fully functional Python implementation. Finally, the book deals with profound models of learning such as R-CNN and YOLO. Object detection in images is also explained in detail using Convolutional Neural Networks (CNNs), which are also explained. By the end of this book, you will have a firm grasp of machine learning and deep learning techniques, as well as a steered methodology for formulating and solving related problems. WHAT YOU WILL LEARN ● Learn to implement various machine learning and deep learning algorithms to achieve smart results. ● Understand how ML algorithms can be applied to real-life applications. ● Explore logic programming and learn how to use it practically to solve real-life problems. ● Learn to develop different types of artificial neural networks with Python. ● Understand reinforcement learning and how to build an environment and agents using Python. ● Work with NLTK and build an automatic speech recognition system. WHO THIS BOOK IS FOR This book is for anyone interested in learning about artificial intelligence and putting it into practice with Python. This book is also valuable for intermediate Machine Learning practitioners as a reference guide. Readers should be familiar with the fundamental understanding of Python programming and machine learning techniques. TABLE OF CONTENTS 1. Introduction to AI and Python 2. Machine Learning and Its Algorithms 3. Classification and Regression Using Supervised Learning 4. Clustering Using Unsupervised Learning 5. Solving Problems with Logic Programming 6. Natural Language Processing with Python 7. Implementing Speech Recognition with Python 8. Implementing Artificial Neural Network (ANN) with Python 9. Implementing Reinforcement Learning with Python 10. Implementing Deep Learning and Convolutional Neural Network
Artificial Intelligence and Machine Learning Morgan & Claypool Publishers
This third edition provides a comprehensive, colorful, up-to-date, and accessible presentation of AI without sacrificing theoretical foundations. It includes numerous examples, applications, full color images, and human interest boxes to enhance student interest. New chapters on deep learning, AI security, and AI programming are included. Advanced topics cover neural nets, genetic algorithms, natural language processing, planning, and complex board games. A companion disc is provided with resources, applications, and figures from the book. Numerous instructors' resources are available upon adoption. Features: • Includes new chapters on deep learning, AI security, and AI programming • Provides a comprehensive, colorful, up to date, and accessible presentation of AI without sacrificing theoretical foundations • Uses numerous examples, applications, full color images, and human interest boxes to enhance student interest • Introduces important AI concepts e.g., robotics, use in video games, neural nets, machine learning, and more thorough practical applications • Features over 300 figures and color images with worked problems detailing AI methods and solutions to selected exercises • Includes companion files with resources, simulations, and figures from the book • Provides numerous instructors' resources, including: solutions to exercises, Microsoft PP slides, etc. The companion files are available online by emailing the publisher with proof of purchase at info@merclearning.com.
Machine Learning and Data Mining John Wiley & Sons
Explore the theory and practical applications of artificial intelligence (AI) and machine learning in healthcare. This book offers a guided tour of machine learning algorithms, architecture design, and applications of learning in healthcare and big data challenges. You'll discover the ethical implications of healthcare data analytics and the future of AI in population and patient health optimization. You'll also create a machine learning model, evaluate performance and operationalize its outcomes within your organization. Machine Learning and AI for Healthcare provides techniques on how to apply machine learning within your organization and evaluate the efficacy, suitability, and efficiency of AI applications. These are illustrated through leading case studies, including how chronic disease is being redefined through patient-led data learning and the Internet of Things. What You'll Learn Gain a deeper understanding of key machine learning algorithms and their use and implementation within wider healthcare Implement machine learning systems, such as speech recognition and enhanced deep learning/AI Select learning methods/algorithms and tuning for use in healthcare Recognize and prepare for the future of artificial intelligence in healthcare through best practices, feedback loops and intelligent agents Who This Book Is For Health care professionals interested in how machine learning can be used to develop health intelligence – with the aim of improving patient health, population health and facilitating significant care-payer cost savings.
An Intuitive Exploration of Artificial Intelligence Springer Nature
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.
Essentials of Deep Learning and AI No Starch Press
This comprehensive encyclopedia, in A-Z format, provides easy access to relevant information for those seeking entry into any aspect within the broad field of Machine Learning. Most of the entries in this preeminent work include useful literature references.
Artificial Intelligence in the 21st Century PHI Learning Pvt. Ltd.
The era of artificial intelligence has arrived. You, who only felt far from artificial intelligence, and the growing dream trees, are now inseparable from artificial intelligence. What does AI have to do with me? Isn't it a distant future that has nothing to do with me, not a scientist, a technician, or a computer programmer? Well, Artificial intelligence is not a story of someone who has nothing to do with it, but the fact is, it is now everyone's story. AI is already deeply infiltrating everyone's life. The question is no longer whether we use technology or not; it's about working together in a better way. Surrounding technologies like Siri, Alexa, or Cortana are seamlessly integrated into our interactions. We walk into the room, turn on the lights, play songs, change the room temperature, keep track of shopping lists, book a ride at the airport, or remind ourselves to take the proper medication on time. It is now necessary to look at artificial intelligence from a broader and larger perspective. You should not just hang on to complex deep learning algorithms and think only through science and technology but through the eyes of emotions and humanities. These days, elementary school students learn English and coding at school. Tomorrow's elementary school students will learn AI. Of course, not everyone needs to be an AI expert. But if you don't understand AI, you will be left out of the trend of changing times. AI comes before English and coding. This is because artificial intelligence is the language and tool of the future. This book opens your door to the most critical understanding needed of AI and other relevant disruptive technologies. Artificial intelligence will significantly change societal structures and the operations of companies. The next generation of employees needs to be trained as a workforce before entering the job market, and the existing workforce is regularly recharged and skilled. There is plenty on this for reskilling too. This is the most definitive compendium of AI, The Internet of Things, Machine Learning, Deep Learning, Data Science, Big Data, Cloud Computing, Neural

networks, Robotics, the future of work and the future of intelligent industries.

Neural Networks for Beginners Independently Published

An intelligent agent interacting with the real world will encounter individual people, courses, test results, drugs prescriptions, chairs, boxes, etc., and needs to reason about properties of these individuals and relations among them as well as cope with uncertainty. Uncertainty has been studied in probability theory and graphical models, and relations have been studied in logic, in particular in the predicate calculus and its extensions. This book examines the foundations of combining logic and probability into what are called relational probabilistic models. It introduces representations, inference, and learning techniques for probability, logic, and their combinations. The book focuses on two representations in detail: Markov logic networks, a relational extension of undirected graphical models and weighted first-order predicate calculus formula, and Problog, a probabilistic extension of logic programs that can also be viewed as a Turing-complete relational extension of Bayesian networks.

Applications of Machine Learning and Artificial Intelligence in Education Apress

Build, train, and deploy intelligent applications using Java libraries Key Features Leverage the power of Java libraries to build smart applications Build and train deep learning models for implementing artificial intelligence Learn various algorithms to automate complex tasks Book Description Artificial intelligence (AI) is increasingly in demand as well as relevant in the modern world, where everything is driven by technology and data. AI can be used for automating systems or processes to carry out complex tasks and functions in order to achieve optimal performance and productivity. Hands-On Artificial Intelligence with Java for Beginners begins by introducing you to AI concepts and algorithms. You will learn about various Java-based libraries and frameworks that can be used in implementing AI to build smart applications. In addition to this, the book teaches you how to implement easy to complex AI tasks, such as genetic programming, heuristic searches, reinforcement learning, neural networks, and segmentation, all with a practical approach. By the end of this book, you will not only have a solid grasp of AI concepts, but you'll also be able to build your own smart applications for multiple domains. What you will learn Leverage different Java packages and tools such as Weka, RapidMiner, and Deeplearning4j, among others Build machine learning models using supervised and unsupervised machine learning techniques Implement different deep learning algorithms in Deeplearning4j and build applications based on them Study the basics of heuristic searching and genetic programming Differentiate between syntactic and semantic similarity among texts Perform sentiment analysis for effective decision making with LingPipe Who this book is for Hands-On Artificial Intelligence with Java for Beginners is for Java developers who want to learn the fundamentals of artificial intelligence and extend their programming knowledge to build smarter applications.

A Machine Learning, Artificial Intelligence Approach to Institutional Effectiveness in Higher Education John Wiley & Sons

Drives next generation path with latest design techniques and methods in the fields of AI and Deep Learning KEY FEATURES ● Extensive examples of Machine Learning and Deep Learning principles. ● Includes graphical demonstrations and visual tutorials for various libraries, configurations, and settings. ● Numerous use cases with the code snippets and examples are presented. DESCRIPTION 'Essentials of Deep Learning and AI' curates the essential knowledge of working on deep neural network techniques and advanced machine learning concepts. This book is for those who want to know more about how deep neural networks work and advanced machine learning principles including real-world examples. This book includes implemented code snippets and step-by-step instructions for how to use them. You'll be amazed at how SciKit-Learn, Keras, and TensorFlow are used in AI applications to speed up the learning process and produce superior results. With the help of detailed examples and code templates, you'll be running your scripts in no time. You will practice constructing models and optimise performance while working in an AI environment. Readers will be able to start writing their programmes with confidence and ease. Experts and newcomers alike will have access to advanced methodologies. For easier reading, concept explanations are presented straightforwardly, with all relevant facts included. WHAT YOU WILL LEARN ● Learn feature engineering using a variety of autoencoders, CNNs, and LSTMs. ● Get to explore Time Series, Computer Vision and NLP models with insightful examples. ● Dive deeper into Activation and Loss functions with various scenarios. ● Get the experience of Deep Learning and AI across IoT, Telecom, and Health Care. ● Build a strong foundation around AI, ML and Deep Learning principles and key concepts. WHO THIS BOOK IS FOR This book targets Machine Learning Engineers, Data Scientists, Data Engineers, Business Intelligence Analysts, and Software Developers who wish to gain a firm grasp on the fundamentals of Deep Learning and Artificial Intelligence. Readers should have a working knowledge of computer programming concepts. TABLE OF CONTENTS 1. Introduction 2. Supervised Machine Learning 3. System Analysis with Machine Learning/Un-Supervised Learning 4. Feature Engineering 5. Classification, Clustering, Association Rules, and Regression 6. Time Series Analysis 7. Data Cleanup, Characteristics and Feature Selection 8. Ensemble Model Development 9. Design with Deep Learning 10. Design with Multi Layered Perceptron (MLP) 11. Long Short Term Memory Networks 12. Autoencoders 13. Applications of Machine Learning and Deep Learning 14. Emerging and Future Technologies.

Artificial Intelligence Illuminated CRC Press

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.

Artificial Intelligence By Example - Second Edition Enamul Haque

Build smarter systems by combining artificial intelligence and the Internet of Things—two of the most talked about topics today Key FeaturesLeverage the power of Python libraries such as TensorFlow and Keras to work with real-time IoT dataProcess IoT data and predict outcomes in real time to build smart IoT modelsCover practical case studies on industrial IoT, smart cities, and home automationBook Description There are many applications that use data science and analytics to gain insights from terabytes of data. These apps, however, do not address the challenge of continually discovering patterns for IoT data. In Hands-On Artificial Intelligence for IoT, we cover various aspects of artificial intelligence (AI) and its implementation to make your IoT solutions smarter. This book starts by covering the process of gathering and preprocessing IoT data gathered from distributed sources. You will learn different AI techniques such as machine learning, deep learning, reinforcement learning, and natural language processing to build smart IoT systems. You will also leverage the power of AI to handle real-time data coming from wearable devices. As you progress through the book, techniques for building models that work with different kinds of data generated and consumed by IoT devices such as time series, images, and audio will be covered. Useful case studies on four major application areas of IoT solutions are a key focal point of this book. In the concluding chapters, you will leverage the power of widely used Python libraries, TensorFlow and Keras, to build different kinds of smart AI models. By the end of this book, you will be able to build smart AI-powered IoT apps with confidence. What you will learnApply different AI techniques including machine learning and deep learning using TensorFlow and KerasAccess and process data from various distributed sourcesPerform supervised and unsupervised machine learning for IoT dataImplement distributed processing of IoT data over Apache Spark using the MLLib and H2O.ai platformsForecast time-series data using deep learning methodsImplementing AI from case studies in Personal IoT, Industrial IoT, and Smart CitiesGain unique insights from data obtained from wearable devices and smart devicesWho this book is for If you are a data science professional or a machine learning developer looking to build smart systems for IoT, Hands-On Artificial Intelligence for IoT is for you. If you want to learn how popular artificial intelligence (AI) techniques can be used in the Internet of Things domain, this book will also be of benefit. A basic understanding of machine learning concepts will be required to get the best out of this book.

Artificial Intelligence and Machine Learning Fundamentals CRC Press

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.

The Deep Learning AI Playbook Springer Nature

Modes and models of learning and instruction have shown a significant shift from yesterday's conventional learning and teaching given this era’s current educational and social contexts. Learners are no longer learning and communicating with human-generated, computed, and mediated—or traditional—learning and instructional practices, paving the way for machine-facilitated communication, learning, and teaching tools. Learning and instruction, communication and information exchange, as well as gathering, coding, analyzing, and synthesizing data have proven to be in need of even more innovative technology-moderated tools. Applications of Machine Learning and Artificial Intelligence in Education focuses on the parameters of remote learning, machine learning, deep learning, and artificial intelligence under 21st-century learning and instructional contexts. Covering topics such as data coding and social networking technology, it is ideal for learners with an interest in the deep learning discipline, educators, educational technologists, instructional designers, and data evaluators, as well as special interest groups (SGIs) in the discipline.

• Ugly Love: A Novel