Machine Learning M Tech

Right here, we have countless books **Machine Learning M Tech** and collections to check out. We additionally have the funds for variant types and next type of the books to browse. The satisfactory book, fiction, history, novel, scientific research, as capably as various further sorts of books are readily understandable here.

As this Machine Learning M Tech , it ends happening creature one of the favored books Machine Learning M Tech collections that we have. This is why you remain in the best website to see the incredible ebook to have.

Advanced Deep Learning with Python - Ivan Vasilev 2019-12-12
Gain expertise in advanced deep learning domains such as neural networks, meta-learning, graph neural networks, and memory augmented neural networks using the Python ecosystem Key Features Get to grips with building faster and more robust deep learning architectures Investigate and train convolutional neural network (CNN) models with GPU-accelerated libraries such as TensorFlow and PyTorch Apply deep neural networks (DNNs) to computer vision problems, NLP, and GANs Book Description In order to build robust deep learning systems, you'll need to understand everything from how neural networks work to training CNN models. In this book, you'll discover newly developed deep learning models, methodologies used in the domain, and their implementation based on areas of application. You'll start by understanding the building blocks and the math behind neural networks, and then move on to CNNs and their advanced applications in computer vision. You'll also learn to apply the most popular CNN architectures in object detection and image segmentation. Further on, you'll focus on variational autoencoders and GANs. You'll then use neural networks to extract sophisticated vector representations of words, before going on to cover various types of recurrent networks, such as LSTM and GRU. You'll even explore the attention mechanism to process sequential data without the help of recurrent neural networks (RNNs). Later, you'll use graph neural networks for processing structured data, along with covering meta-learning, which allows you to train neural networks with fewer training samples. Finally, you'll understand how to apply deep learning to autonomous vehicles. By the end of this book, you'll have mastered key deep learning concepts and the different applications of deep learning models in the real world. What you will learn Cover advanced and state-of-the-art neural network architectures Understand the theory and math behind neural networks Train DNNs and apply them to modern deep learning problems Use CNNs for object detection and image segmentation Implement generative adversarial networks (GANs) and variational autoencoders to generate new images Solve natural language processing (NLP) tasks, such as machine translation, using sequence-to-sequence models Understand DL techniques, such as meta-learning and graph neural networks Who this book is for This book is for data scientists, deep learning engineers and researchers, and AI developers who want to further their knowledge of deep learning and build innovative and unique deep learning projects. Anyone looking to get to grips with advanced use cases and methodologies adopted in the deep learning domain using real-world examples will also find this book useful. Basic understanding of deep learning concepts and working knowledge of the Python programming language is assumed.

Artificial Intelligence for Future Generation Robotics - Rabindra Nath Shaw 2021-06-19
Artificial Intelligence for Future Generation Robotics offers a vision for potential future robotics applications for AI technologies. Each chapter includes theory and mathematics to stimulate novel research directions based on the

state-of-the-art in AI and smart robotics. Organized by application into ten chapters, this book offers a practical tool for researchers and engineers looking for new avenues and use-cases that combine AI with smart robotics. As we witness exponential growth in automation and the rapid advancement of underpinning technologies, such as ubiquitous computing, sensing, intelligent data processing, mobile computing and context aware applications, this book is an ideal resource for future innovation. Brings AI and smart robotics into imaginative, technically-informed dialogue Integrates fundamentals with real-world applications Presents potential applications for AI in smart robotics by use-case Gives detailed theory and mathematical calculations for each application Stimulates new thinking and research in applying AI to robotics

Predictive Modeling in Biomedical Data Mining and Analysis - Sudipta Roy 2022-08-28 Predictive Modeling in Biomedical Data Mining and Analysis presents major technical advancements and research findings in the field of machine learning in biomedical image and data analysis. The book examines recent technologies and studies in preclinical and clinical practice in computational intelligence. The authors present leading-edge research in the science of processing, analyzing and utilizing all aspects of advanced computational machine learning in biomedical image and data analysis. As the application of machine learning is spreading to a variety of biomedical problems, including automatic image segmentation, image classification, disease classification, fundamental biological processes, and treatments, this is an ideal reference. Machine Learning techniques are used as predictive models for many types of applications, including biomedical applications. These techniques have shown impressive results across a variety of domains in biomedical engineering research. Biology and medicine are data-rich disciplines, but the data are complex and often ill-understood, hence the need for new resources and information. Includes predictive modeling algorithms for both Supervised Learning and Unsupervised Learning for medical diagnosis, data summarization and pattern identification Offers complete coverage of predictive modeling in biomedical applications,

including data visualization, information retrieval, data mining, image pre-processing and segmentation, mathematical models and deep neural networks Provides readers with leading-edge coverage of biomedical data processing, including high dimension data, data reduction, clinical decision-making, deep machine learning in large data sets, multimodal, multi-task, and transfer learning, as well as machine learning with Internet of Biomedical Things applications

Visual and Text Sentiment Analysis through Hierarchical Deep Learning Networks - Arindam Chaudhuri 2019-04-06 This book presents the latest research on hierarchical deep learning for multi-modal sentiment analysis. Further, it analyses sentiments in Twitter blogs from both textual and visual content using hierarchical deep learning networks: hierarchical gated feedback recurrent neural networks (HGFRNNs). Several studies on deep learning have been conducted to date, but most of the current methods focus on either only textual content, or only visual content. In contrast, the proposed sentiment analysis model can be applied to any social blog dataset, making the book highly beneficial for postgraduate students and researchers in deep learning and sentiment analysis. The mathematical abstraction of the sentiment analysis model is presented in a very lucid manner. The complete sentiments are analysed by combining text and visual prediction results. The book's novelty lies in its development of innovative hierarchical recurrent neural networks for analysing sentiments; stacking of multiple recurrent layers by controlling the signal flow from upper recurrent layers to lower layers through a global gating unit; evaluation of HGFRNNs with different types of recurrent units; and adaptive assignment of HGFRNN layers to different timescales. Considering the need to leverage large-scale social multimedia content for sentiment analysis, both state-of-the-art visual and textual sentiment analysis techniques are used for joint visual-textual sentiment analysis. The proposed method yields promising results from Twitter datasets that include both texts and images, which support the theoretical hypothesis.

Machine Learning - Shraban Kumar Apat 2022-08-05

Machine learning has got one of the most significant points inside advancement associations that are searching for creative approaches to use information advantages to help the business increase another degree of comprehension. Why include machine learning into the mix? With the appropriate machine learning models, associations can constantly anticipate changes in the business with the goal that they are best ready to foresee what's straightaway. As data is constantly added, the machine learning models guarantee that the arrangement is continually refreshed. The worth is direct: If you utilize the most suitable and continually changing information sources with machine learning, you have the chance to foresee what's to come; Machine learning is a type of AI that empowers a framework to gain from data as opposed to through unequivocal programming. Not with standing, machine learning is certainly not a basic procedure.

Review on use of Reinforcement Learning in Artificial Intelligence - Mehdi Samieiyeganeh 2012-06-15
Research Paper (postgraduate) from the year 2012 in the subject Engineering - Artificial Intelligence, grade: none, Jawaharlal Nehru University , language: English, abstract: Human started making machinery that can do the job for them. The technology developed so much that it started involving many other branches of engineering such as electronics, robotics etc. This eventually led to much more complex and smart machinery involving Artificial Intelligence. Reinforcement Learning is a type of Machine Learning, and thereby also a branch of Artificial Intelligence. It allows machines and software agents to automatically determine the ideal behavior within a specific context, in order to maximize its performance. Reinforcement Learning (RL) comes from the animal learning theory. RL does not need prior knowledge, it can autonomously get optional policy with the knowledge obtained by trial- and-error and continuously interact with dynamic environment. As a matter of fact, Reinforcement Learning is defined by a specific type of problem, and all its solutions are classed as Reinforcement Learning algorithms. In the problem, an agent is supposed decide the best action to select based on its current state. When this step is repeated, the

problem is known as a Markov Decision Process. A Markov Decision Process is a discrete time stochastic control process. At each time step, the process is in some state s, and the decision maker may choose any action that is available in state's'. Markov Decision Process provides a mathematical framework for modeling decision-making in situations where outcomes are partly random and partly under the control of a decision maker.

E-learning Methodologies - Mukta Goyal 2021-02-16
E-learning has become an important part of our educational life with the development of e-learning systems and platforms and the need for online and remote learning. ICT and computational intelligence techniques are being used to design more intelligent and adaptive systems. However, the art of designing good real-time e-learning systems is difficult as different aspects of learning need to be considered including challenges such as learning rates, involvement, knowledge, qualifications, as well as networking and security issues. The earlier concepts of standalone integrated virtual e-learning systems have been greatly enhanced with emerging technologies such as cloud computing, mobile computing, big data, Internet of Things (IoT), AI and machine learning, and AR/VT technologies.

Machine Learning Applications in Non-Conventional Machining Processes - Bose, Goutam Kumar 2021-02-05
Traditional machining has many limitations in today's technology-driven world, which has caused industrial professionals to begin implementing various optimization techniques within their machining processes. The application of methods including machine learning and genetic algorithms has recently transformed the manufacturing industry and created countless opportunities in non-traditional machining methods. Significant research in this area, however, is still considerably lacking. Machine Learning Applications in Non-Conventional Machining Processes is a collection of innovative research on the advancement of intelligent technology in industrial environments and its applications within the manufacturing field. While highlighting topics including evolutionary

algorithms, micro-machining, and artificial neural networks, this book is ideally designed for researchers, academicians, engineers, managers, developers, practitioners, industrialists, and students seeking current research on intelligence-based machining processes in today's technology-driven market.

Practical Approach for Machine Learning and Deep Learning Algorithms - Pandey Abhishek Kumar 2019-09-20
Guide covering topics from machine learning, regression models, neural network to tensor flow Key features Machine learning in MATLAB using basic concepts and algorithms. Deriving and accessing of data in MATLAB and next, pre-processing and preparation of data. Machine learning workflow for health monitoring. The neural network domain and implementation in MATLAB with explicit explanation of code and results. How predictive model can be improved using MATLAB? MATLAB code for an algorithm implementation, rather than for mathematical formula. Machine learning workflow for health monitoring. Description Machine learning is mostly sought in the research field and has become an integral part of many research projects nowadays including commercial applications, as well as academic research. Application of machine learning ranges from finding friends on social networking sites to medical diagnosis and even satellite processing. In this book, we have made an honest effort to make the concepts of machine learning easy and give basic programs in MATLAB right from the installation part. Although the real-time application of machine learning is endless, however, the basic concepts and algorithms are discussed using MATLAB language so that not only graduation students but also researchers are benefitted from it.What will you learn Pre-requisites to machine learning Finding natural patterns in data Building classification methods Data pre-processing in Python Building regression models Creating neural networks Deep learning Who this book is forThe book is basically meant for graduate and research students who find the algorithms of machine learning difficult to implement. We have touched all basic algorithms of machine learning in detail with a practical approach. Primarily, beginners will find this book more effective as the chapters are subdivided in a manner that they find the building and implementation of algorithms in MATLAB interesting and easy at the same time.Table of contents1. Pre-requisite to Machine Learning2. An introduction to Machine Learning3. Finding Natural Patterns in Data4. Building Classification Methods5. Data Pre-Processing in Python6. Building Regression Models7. Creating Neural Networks8. Introduction to Deep LearningAbout the authorAbhishek Kumar Pandey is pursuing his Doctorate in computer science and done M.Tech in Computer Sci. & Engineering. He has been working as an Assistant professor of Computer Science at Aryabhatt Engineering College and Research center, Ajmer and also visiting faculty in Government University MDS Ajmer. He has total Academic teaching experience of more than eight years with more than 50 publications in reputed National and International Journals. His research area includes- Artificial intelligence, Image processing, Computer Vision, Data Mining, Machine Learning. His Blog: http://veenapandey.simplesite.com/His LinkedIn Profile: https://www.linkedin.com/in/abhishek-pandey-ba6a6a64/ Pramod Singh Rathore is M. Tech in Computer Sci. and Engineering from Government Engineering College Ajmer, Rajasthan Technical University, Kota, India. He have been working as an Assistant Professor Computer Science at Aryabhatt Engineering College and Research center, Ajmer and also a visiting faculty in Government University Ajmer. He has authored a book in Network simulation which published worldwide. He has a total academic teaching experience more than 7 years with many publications in reputed national group, CRC USA, and has 40 publications as Research papers and Chapters in reputed National and International E-SCI SCOPUS. His research area includes machine learning, NS2, Computer Network, Mining, and DBMS. Dr S. Balamurugan is the Head of Research and Development, Quants IS & CS, India. Formely, he was the Director of Research and Development at Mindnotix Technologies, India. He has authored/co-authored 33 books and has 200 publications in various international journals and conferences to his credit. He was awarded with Three Post-Doctoral Degrees- Doctor of

Science (D.Sc.) degree and Two Doctor of Letters(D.Litt) degrees for his significant contribution to research and development in Engineering, and is the recepient of thee Best Director Award, 2018. His biography is listed in "e;World Book of Researchers"e; 2018, Oxford, UK and in "e;Marquis WHO'S WHO"e; 2018 issue, New Jersey, USA. He carried out a healthcare consultancy project for VGM Hospitals between 2013 and 2016, and his current research projects include "e;Women Empowerment using IoT"e;, "e;Health-Aware Smart Chair"e;, "e;Advanced Brain Simulators for Assisting Physiological Medicine"e;, "e;Designing Novel Health Bands"e; and "e;IoT - based Devices for Assisting Elderly People"e;. His LinkedIn Profile: https://www.linkedin.com/in/dr-s-balamurugan-008a7512/

Machine Learning for Healthcare - Rashmi Agrawal 2020-12-08
Machine Learning for Healthcare: Handling and Managing Data provides in-depth information about handling and managing healthcare data through machine learning methods. This book expresses the long-standing challenges in healthcare informatics and provides rational explanations of how to deal with them. Machine Learning for Healthcare: Handling and Managing Data provides techniques on how to apply machine learning within your organization and evaluate the efficacy, suitability, and efficiency of machine learning applications. These are illustrated in a case study which examines how chronic disease is being redefined through patient-led data learning and the Internet of Things. This text offers a guided tour of machine learning algorithms, architecture design, and applications of learning in healthcare. Readers will discover the ethical implications of machine learning in healthcare and the future of machine learning in population and patient health optimization. This book can also help assist in the creation of a machine learning model, performance evaluation, and the operationalization of its outcomes within organizations. It may appeal to computer science/information technology professionals and researchers working in the area of machine learning, and is especially applicable to the healthcare sector. The features of this book include: A unique and complete focus on applications of machine learning in the healthcare sector. An examination of how data analysis can be done using healthcare data and bioinformatics. An investigation of how healthcare companies can leverage the tapestry of big data to discover new business values. An exploration of the concepts of machine learning, along with recent research developments in healthcare sectors.

Handbook of Research on Pattern Engineering System Development for Big Data Analytics - Tiwari, Vivek 2018-04-20
Due to the growing use of web applications and communication devices, the use of data has increased throughout various industries. It is necessary to develop new techniques for managing data in order to ensure adequate usage. The Handbook of Research on Pattern Engineering System Development for Big Data Analytics is a critical scholarly resource that examines the incorporation of pattern management in business technologies as well as decision making and prediction process through the use of data management and analysis. Featuring coverage on a broad range of topics such as business intelligence, feature extraction, and data collection, this publication is geared towards professionals, academicians, practitioners, and researchers seeking current research on the development of pattern management systems for business applications.

Artificial Intelligence and Industry 4.0 - Aboul Ella Hassanien 2022-08-14
Artificial Intelligence and Industry 4.0 explores recent advancements in blockchain technology and artificial intelligence (AI) as well as their crucial impacts on realizing Industry 4.0 goals. The book explores AI applications in industry including Internet of Things (IoT) and Industrial Internet of Things (IIoT) technology. Chapters explore how AI (machine learning, smart cities, healthcare, Society 5.0, etc.) have numerous potential applications in the Industry 4.0 era. This book is a useful resource for researchers and graduate students in computer science researching and developing AI and the IIoT. Explores artificial intelligence applications within the industrial manufacturing and communications sectors Presents a wide range of machine learning, computer vision, and digital

twin applications across the IoT sector Explores how deep learning and cognitive computing tools enable processing vast data sets, precise and comprehensive forecast of risks, and delivering recommended actions

Mastering Disruptive Technologies - Dr. R. K. Dhanaraj 2021-04-30
About the Book: The book is divided into 4 modules which consist of 21 chapters, that narrates briefly about the top five recent emerging trends such as: Cloud Computing, Internet of Things (IoT), Blockchain, Artificial Intelligence, and Machine Learning. At the end of each module, authors have provided two Appendices. One is Job oriented short-type questions with answers, and the second one provide us different MCQs with their keys. Salient Features of the Book: ⬡ Detailed Coverage on Topics like: Introduction to Cloud Computing, Cloud Architecture, Cloud Applications, Cloud Platforms, Open-Source Cloud Simulation Tools, and Mobile Cloud Computing. ⬡ Expanded Coverage on Topics like: Introduction to IoT, Architecture, Core Modules, Communication models and protocols, IoT Environment, IoT Testing, IoT and Cloud Computing. ⬡ Focused Coverage on Topics like: Introduction to Blockchain Technology, Security and Privacy component of Blockchain Technology, Consensus Algorithms, Blockchain Development Platform, and Various Applications. ⬡ Dedicated Coverage on Topics like: Introduction to Artificial Intelligence and Machine Learning Techniques, Types of Machine Learning, Clustering Algorithms, K-Nearest Neighbor Algorithm, Artificial Neural Network, Deep Learning, and Applications of Machine Learning. ⬡ Pictorial Two-Minute Drill to Summarize the Whole Concept. ⬡ Inclusion of 300 Job Oriented Short Type Questions with Answers for the aspirants to have the Thoroughness, Practice and Multiplicity. ⬡ Around 178 Job Oriented MCQs with their keys. ⬡ Catch Words and Questions on Self-Assessment at Chapter-wise Termination. About the Authors: Dr. Rajesh Kumar Dhanaraj is an Associate Professor in the School of Computing Science and Engineering at Galgotias University, Greater Noida, Uttar Pradesh, India. He holds a Ph.D. degree in Information and Communication Engineering from Anna University Chennai, India. He has published more than 20 authored and edited books on various emerging technologies and more than 35 articles in various peer-reviewed journals and international conferences and contributed chapters to the books. His research interests include Machine Learning, Cyber-Physical Systems and Wireless Sensor Networks. He is an expert advisory panel member of Texas Instruments Inc. USA. Mr. Soumya Ranjan Jena is currently working as an Assistant Professor in the Department of CSE, School of Computing at Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science & Technology, Avadi, Chennai, Tamil Nadu, India. He has teaching and research experience from various reputed institutions in India like Galgotias University, Greater Noida, Uttar Pradesh, AKS University, Satna, Madhya Pradesh, K L Deemed to be University, Guntur, Andhra Pradesh, GITA (Autonomous), Bhubaneswar, Odisha. He has been awarded M.Tech in Information Technology from Utkal University, Odisha, B.Tech in Computer Science & Engineering from BPUT, Odisha, and Cisco Certified Network Associate (CCNA) from Central Tool Room and Training Centre (CTTC), Bhubaneswar, Odisha. He has got the immense experience to teach to graduate as well as post-graduate students and author of two books i.e. "Theory of Computation and Application" and "Design and Analysis of Algorithms". He has published more than 25 research papers on Cloud Computing, IoT in various international journals and conferences which are indexed by Scopus, Web of Science, and also published six patents out of which one is granted in Australia. Mr. Ashok Kumar Yadav is currently working as Dean Academics and Assistant Professor at Rajkiya Engineering College, Azamgarh, Uttar Pradesh. He has worked as an Assistant Professor (on Ad-hoc) in the Department of Computer Science, University of Delhi. He has also worked with Cluster Innovation Center, University of Delhi, New Delhi. He qualified for UGC-JRF. Presently, he is pursuing his Ph.D. in Computer Science from JNU, New Delhi. He has received M.Tech in Computer Science and Technology from JNU, New Delhi. He has presented and published papers at international conferences and journals on blockchain technology and machine learning. He has

delivered various expert lectures on reputed institutes. Ms. Vani Rajasekar completed B. Tech (Information Technology), M. Tech (Information and Cyber warfare) in Department of Information Technology, Kongu Engineering College, Erode, Tamil Nadu, India. She is pursuing her Ph.D. (Information and Communication Engineering) in the area of Biometrics and Network security. Presently she is working as an Assistant professor in the Department of Computer Science and Engineering, Kongu Engineering College Erode, Tamil Nadu, India for the past 5 years. Her areas of interest include Cryptography, Biometrics, Network Security, and Wireless Networks. She has authored around 20 research papers and book chapters published in various international journals and conferences which were indexed in Scopus, Web of Science, and SCI.

Cognitive Informatics, Computer Modelling, and Cognitive Science - G. R. Sinha 2020-04-22
Cognitive Informatics, Computer Modelling, and Cognitive Science: Volume Two, Application to Neural Engineering, Robotics, and STEM presents the practical, real-world applications of Cognitive Science to help readers understand how it can help them in their research, engineering and academic pursuits. The book is presented in two volumes, covering Introduction and Theoretical Background, Philosophical and Psychological Theory, and Cognitive Informatics and Computing. Volume Two includes Statistics for Cognitive Science, Cognitive Applications and STEM Case Studies. Other sections cover Cognitive Informatics, Computer Modeling and Cognitive Science: Application to Neural Engineering, Robotics, and STEM. The book's authors discuss the current status of research in the field of Cognitive Science, including cognitive language processing that paves the ways for developing numerous tools for helping physically challenged persons, and more. Identifies how foundational theories and concepts in cognitive science are applicable in other fields Includes a comprehensive review of cognitive science applications in multiple domains, applying it to neural engineering, robotics, computer science and STEM Presents basic statistics and cognitive maps, testing strategies of hypothesis, maximum likelihood estimator, Bayesian statistics, and discrete

probability models of neural computation Contains in-depth technical coverage of cognitive applications and case studies, including neuro-computing, brain modeling, cognitive ability and cognitive robots

Artificial Intelligence, Machine Learning, and Mental Health in Pandemics - Shikha Jain 2022-05-06
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

Internet of Things, Artificial Intelligence and Blockchain Technology - R.Lakshmana Kumar 2021-09-02
This book explores the concepts and techniques of IoT, AI, and blockchain. Also discussed is the possibility of applying blockchain for providing security in various domains. The specific highlight of this book is focused on the application of integrated technologies in enhancing data models, better insights and discovery, intelligent predictions, smarter finance, smart retail, global verification, transparent governance, and innovative audit systems. The book allows both practitioners and researchers to share their opinions and recent research in the convergence of these technologies among academicians and industry

people. The contributors present their technical evaluation and compare it with existing technologies. Theoretical explanation and experimental case studies related to real-time scenarios are also included. This book pertains to IT professionals, researchers and academicians working on fourth revolution technologies.

Handbook of Research on Emerging Trends and Applications of Machine Learning - Solanki, Arun 2019-12-13

As today's world continues to advance, Artificial Intelligence (AI) is a field that has become a staple of technological development and led to the advancement of numerous professional industries. An application within AI that has gained attention is machine learning. Machine learning uses statistical techniques and algorithms to give computer systems the ability to understand and its popularity has circulated through many trades. Understanding this technology and its countless implementations is pivotal for scientists and researchers across the world. The Handbook of Research on Emerging Trends and Applications of Machine Learning provides a high-level understanding of various machine learning algorithms along with modern tools and techniques using Artificial Intelligence. In addition, this book explores the critical role that machine learning plays in a variety of professional fields including healthcare, business, and computer science. While highlighting topics including image processing, predictive analytics, and smart grid management, this book is ideally designed for developers, data scientists, business analysts, information architects, finance agents, healthcare professionals, researchers, retail traders, professors, and graduate students seeking current research on the benefits, implementations, and trends of machine learning.

Applications of Deep Learning and Big IoT on Personalized Healthcare Services - Wason, Ritika 2020-02-07

Healthcare is an industry that has seen great advancements in personalized services through big data analytics. Despite the application of smart devices in the medical field, the mass volume of data that is being generated makes it challenging to correctly diagnose patients. This

has led to the implementation of precise algorithms that can manage large amounts of information and successfully use smart living in medical environments. Professionals worldwide need relevant research on how to successfully implement these smart technologies within their own personalized healthcare processes. Applications of Deep Learning and Big IoT on Personalized Healthcare Services is a pivotal reference source that provides a collection of innovative research on the analytical methods and applications of smart algorithms for the personalized treatment of patients. While highlighting topics including cognitive computing, natural language processing, and supply chain optimization, this book is ideally designed for network designers, analysts, technology specialists, medical professionals, developers, researchers, academicians, and post-graduate students seeking relevant information on smart developments within individualized healthcare.

Machine Learning and Data Analytics for Predicting, Managing, and Monitoring Disease - Roy, Manikant 2021-06-25

Data analytics is proving to be an ally for epidemiologists as they join forces with data scientists to address the scale of crises. Analytics examined from many sources can derive insights and be used to study and fight global outbreaks. Pandemic analytics is a modern way to combat a problem as old as humanity itself: the proliferation of disease. Machine Learning and Data Analytics for Predicting, Managing, and Monitoring Disease explores different types of data and discusses how to prepare data for analysis, perform simple statistical analyses, create meaningful data visualizations, predict future trends from data, and more by applying cutting edge technology such as machine learning and data analytics in the wake of the COVID-19 pandemic. Covering a range of topics such as mental health analytics during COVID-19, data analysis and machine learning using Python, and statistical model development and deployment, it is ideal for researchers, academicians, data scientists, technologists, data analysts, diagnosticians, healthcare professionals, computer scientists, and students.

Machine Learning, Blockchain, and Cyber

Security in Smart Environments - Sarvesh Tanwar 2022
Machine Learning, Cyber Security, and Blockchain in Smart Environment: Application and Challenges provides far-reaching insights into the recent techniques forming the backbone of smart environments, and addresses the vulnerabilities that give rise to the challenges in real-word implementation. The book focuses on the benefits related to the emerging applications such as machine learning, blockchain and cyber security. Key Features: Introduces the latest trends in the fields of machine learning, blockchain and cyber security Discusses the fundamentals, challenges and architectural overviews with concepts Explores recent advancements in machine learning, blockchain, and cyber security Examines recent trends in emerging technologies This book is primarily aimed at graduates, researchers, and professionals working in the areas of machine learning, blockchain, and cyber security.

Revolutionizing Education in the Age of AI and Machine Learning - Habib, Maki K. 2019-09-15
Artificial Intelligence (AI) serves as a catalyst for transformation in the field of digital teaching and learning by introducing novel solutions to revolutionize all dimensions of the educational process, leading to individualized learning experiences, teachers playing a greater role as mentors, and the automation of all administrative processes linked to education. AI and machine learning are already contributing to and are expected to improve the quality of the educational process by providing advantages such as personalized and interactive tutoring with the ability to adjust the content and the learning pace of each individual student while assessing their performance and providing feedback. These shifts in the educational paradigm have a profound impact on the quality and the way we live, interact with each other, and define our values. Thus, there is a need for an earnest inquiry into the cultural repercussions of this phenomenon that extends beyond superficial analyses of AI-based applications in education. Revolutionizing Education in the Age of AI and Machine Learning addresses the need for a scholarly exploration of the cultural and social impacts of the rapid expansion of artificial intelligence in

the field of education including potential consequences these impacts could have on culture, social relations, and values. The content within this publication covers such topics as AI and tutoring, role of teachers, physical education and sports, interactive E-learning and virtual laboratories, adaptive curricula development, support critical thinking, and augmented intelligence and it is designed for educators, curriculum developers, instructional designers, educational software developers, education consultants, academicians, administrators, researchers, and professionals.

Machine Learning Approaches for Urban Computing - Mainak Bandyopadhyay 2021-04-28
This book discusses various machine learning applications and models, developed using heterogeneous data, which helps in a comprehensive prediction, optimization, association analysis, cluster analysis and classification-related applications for various activities in urban area. It details multiple types of data generating from urban activities and suitability of various machine learning algorithms for handling urban data. The book is helpful for researchers, academicians, faculties, scientists and geospatial industry professionals for their research work and sets new ideas in the field of urban computing.

Convergence of Deep Learning and Artificial Intelligence in Internet of Things - Ajay Rana 2022-12-20
"The text emphasizes the importance of innovation and improving the profitability of manufacturing plants using smart technologies such as artificial intelligence, deep learning, and the internet of things. It further discusses applications of smart technologies in diverse sectors such as production, manufacturing, transport, and healthcare"--

Machine Learning for Biometrics - Partha Pratim Sarangi 2022-01-28
Machine Learning for Biometrics: Concepts, Algorithms and Applications highlights the fundamental concepts of machine learning, processing and analyzing data from biometrics and provides a review of intelligent and cognitive learning tools which can be adopted in this direction. Each chapter of the volume is supported by real-life case studies, illustrative

examples and video demonstrations. The book elucidates various biometric concepts, algorithms and applications with machine intelligence solutions, providing guidance on best practices for new technologies such as e-health solutions, Data science, Cloud computing, and Internet of Things, etc. In each section, different machine learning concepts and algorithms are used, such as different object detection techniques, image enhancement techniques, both global and local feature extraction techniques, and classifiers those are commonly used data science techniques. These biometrics techniques can be used as tools in Cloud computing, Mobile computing, IOT based applications, and e-health care systems for secure login, device access control, personal recognition and surveillance. Covers different machine intelligence concepts, algorithms and applications in the field of cybersecurity, e-health monitoring, secure cloud computing and secure IOT based operations Explores advanced approaches to improve recognition performance of biometric systems with the use of recent machine intelligence techniques Introduces detection or segmentation techniques to detect biometric characteristics from the background in the input sample

Artificial Unintelligence - Meredith Broussard 2019-01-29

A guide to understanding the inner workings and outer limits of technology and why we should never assume that computers always get it right. In Artificial Unintelligence, Meredith Broussard argues that our collective enthusiasm for applying computer technology to every aspect of life has resulted in a tremendous amount of poorly designed systems. We are so eager to do everything digitally—hiring, driving, paying bills, even choosing romantic partners—that we have stopped demanding that our technology actually work. Broussard, a software developer and journalist, reminds us that there are fundamental limits to what we can (and should) do with technology. With this book, she offers a guide to understanding the inner workings and outer limits of technology—and issues a warning that we should never assume that computers always get things right. Making a case against technochauvinism—the belief that technology is always the solution—Broussard argues that it's

just not true that social problems would inevitably retreat before a digitally enabled Utopia. To prove her point, she undertakes a series of adventures in computer programming. She goes for an alarming ride in a driverless car, concluding "the cyborg future is not coming any time soon"; uses artificial intelligence to investigate why students can't pass standardized tests; deploys machine learning to predict which passengers survived the Titanic disaster; and attempts to repair the U.S. campaign finance system by building AI software. If we understand the limits of what we can do with technology, Broussard tells us, we can make better choices about what we should do with it to make the world better for everyone.

Hands-On Transfer Learning with Python - Dipanjan Sarkar 2018-08-31

Deep learning simplified by taking supervised, unsupervised, and reinforcement learning to the next level using the Python ecosystem Key Features Build deep learning models with transfer learning principles in Python implement transfer learning to solve real-world research problems Perform complex operations such as image captioning neural style transfer Book Description Transfer learning is a machine learning (ML) technique where knowledge gained during training a set of problems can be used to solve other similar problems. The purpose of this book is two-fold; firstly, we focus on detailed coverage of deep learning (DL) and transfer learning, comparing and contrasting the two with easy-to-follow concepts and examples. The second area of focus is real-world examples and research problems using TensorFlow, Keras, and the Python ecosystem with hands-on examples. The book starts with the key essential concepts of ML and DL, followed by depiction and coverage of important DL architectures such as convolutional neural networks (CNNs), deep neural networks (DNNs), recurrent neural networks (RNNs), long short-term memory (LSTM), and capsule networks. Our focus then shifts to transfer learning concepts, such as model freezing, fine-tuning, pre-trained models including VGG, inception, ResNet, and how these systems perform better than DL models with practical examples. In the concluding chapters, we will focus on a multitude of real-world case studies and problems associated with

areas such as computer vision, audio analysis and natural language processing (NLP). By the end of this book, you will be able to implement both DL and transfer learning principles in your own systems. What you will learn Set up your own DL environment with graphics processing unit (GPU) and Cloud support Delve into transfer learning principles with ML and DL models Explore various DL architectures, including CNN, LSTM, and capsule networks Learn about data and network representation and loss functions Get to grips with models and strategies in transfer learning Walk through potential challenges in building complex transfer learning models from scratch Explore real-world research problems related to computer vision and audio analysis Understand how transfer learning can be leveraged in NLP Who this book is for Hands-On Transfer Learning with Python is for data scientists, machine learning engineers, analysts and developers with an interest in data and applying state-of-the-art transfer learning methodologies to solve tough real-world problems. Basic proficiency in machine learning and Python is required.

Deep Learning Research Applications for Natural Language Processing - Ashok Kumar, L. 2022-12-09
Humans have the most advanced method of communication, which is known as natural language. While humans can use computers to send voice and text messages to each other, computers do not innately know how to process natural language. In recent years, deep learning has primarily transformed the perspectives of a variety of fields in artificial intelligence (AI), including speech, vision, and natural language processing (NLP). The extensive success of deep learning in a wide variety of applications has served as a benchmark for the many downstream tasks in AI. The field of computer vision has taken great leaps in recent years and surpassed humans in tasks related to detecting and labeling objects thanks to advances in deep learning and neural networks. Deep Learning Research Applications for Natural Language Processing explains the concepts and state-of-the-art research in the fields of NLP, speech, and computer vision. It provides insights into using the tools and libraries in Python for real-world applications. Covering topics such as deep

learning algorithms, neural networks, and advanced prediction, this premier reference source is an excellent resource for computational linguists, software engineers, IT managers, computer scientists, students and faculty of higher education, libraries, researchers, and academicians.

Handbook of Research on Disease Prediction Through Data Analytics and Machine Learning - Rani, Geeta 2020-10-16
By applying data analytics techniques and machine learning algorithms to predict disease, medical practitioners can more accurately diagnose and treat patients. However, researchers face problems in identifying suitable algorithms for pre-processing, transformations, and the integration of clinical data in a single module, as well as seeking different ways to build and evaluate models. The Handbook of Research on Disease Prediction Through Data Analytics and Machine Learning is a pivotal reference source that explores the application of algorithms to making disease predictions through the identification of symptoms and information retrieval from images such as MRIs, ECGs, EEGs, etc. Highlighting a wide range of topics including clinical decision support systems, biomedical image analysis, and prediction models, this book is ideally designed for clinicians, physicians, programmers, computer engineers, IT specialists, data analysts, hospital administrators, researchers, academicians, and graduate and post-graduate students.

Applications of Artificial Intelligence and Machine Learning - Ankur Choudhary 2021-07-27
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.

Machine Learning and Deep Learning in Real-Time Applications - Mahrishi, Mehul 2020-04-24 Artificial intelligence and its various components are rapidly engulfing almost every professional industry. Specific features of AI that have proven to be vital solutions to numerous real-world issues are machine learning and deep learning. These intelligent agents unlock higher levels of performance and efficiency, creating a wide span of industrial applications. However, there is a lack of research on the specific uses of machine/deep learning in the professional realm. Machine Learning and Deep Learning in Real-Time Applications provides emerging research exploring the theoretical and practical aspects of machine learning and deep learning and their implementations as well as their ability to solve real-world problems within several professional disciplines including healthcare, business, and computer science. Featuring coverage on a broad range of topics such as image processing, medical improvements, and smart grids, this book is ideally designed for researchers, academicians, scientists, industry experts, scholars, IT professionals, engineers, and students seeking current research on the multifaceted uses and implementations of machine learning and deep learning across the globe.

Convergence of Deep Learning in Cyber-IoT Systems and Security - Rajdeep Chakraborty 2022-11-08
CONVERGENCE OF DEEP LEARNING IN CYBER-IOT SYSTEMS AND SECURITY In-depth analysis of Deep Learning-based cyber-IoT systems and security which will be the industry leader for the next ten years. The main goal of this book is to bring to the fore unconventional cryptographic methods to provide cyber security, including cyber-physical system security and IoT security through deep learning techniques and analytics with the study of all these systems. This book provides innovative solutions and implementation of deep learning-based models in cyber-IoT systems, as well as the exposed security issues in these systems. The 20 chapters are organized into four parts. Part I gives the various approaches that have evolved from machine learning to deep learning. Part II presents many innovative solutions, algorithms, models, and implementations based on deep learning. Part III covers security and safety aspects with deep learning. Part IV details cyber-physical systems as well as a discussion on the security and threats in cyber-physical systems with probable solutions. Audience Researchers and industry engineers in computer science, information technology, electronics and communication, cybersecurity and cryptography.

Applied Machine Learning - M. Gopal 2019-06-05
Publisher's Note: Products purchased from Third Party sellers are not guaranteed by the publisher for quality, authenticity, or access to any online entitlements included with the product. Cutting-edge machine learning principles, practices, and applications This comprehensive textbook explores the theoretical under¬pinnings of learning and equips readers with the knowledge needed to apply powerful machine learning techniques to solve challenging real-world problems. Applied Machine Learning shows, step by step, how to conceptualize problems, accurately represent data, select and tune algorithms, interpret and analyze results, and make informed strategic decisions. Presented in a non-rigorous mathematical style, the book covers a broad array of machine learning topics with special emphasis on methods that have been profitably employed. Coverage includes: •Supervised learning•Statistical learning•Learning with support vector machines (SVM)•Learning with neural networks (NN)•Fuzzy inference systems•Data clustering•Data transformations•Decision tree learning•Business intelligence•Data mining•And much more

Smart Electrical and Mechanical Systems - Rakesh Sehgal 2022-06-24
Smart Electrical and Mechanical Systems: An Application of Artificial Intelligence and Machine Learning is an international contributed work with the most up-to-date fundamentals and conventional methods used in smart electrical and mechanical systems. Detailing methods and procedures for the application of ML and AI, it is supported with illustrations of the systems, process diagrams visuals of the systems and/or their components, and supportive data and

results leading to the benefits and challenges of the relevant applications. The multidisciplinary theme of the book will help researchers build a synergy between electrical and mechanical engineering systems. The book guides readers on not only how to effectively solve problems but also provide high accuracy needed for successful implementation. Interdisciplinary in nature, the book caters to the needs of the electrical and mechanical engineering industry by offering details on the application of AI and ML in robotics, design and manufacturing, image processing, power system operation and forecasting with suitable examples. Includes significant case studies related to application of Artificial Intelligence and Machine Learning in Energy and Power, Mechanical Design and Manufacturing Contains supporting illustrations and tables, along with a valuable set of references at the end of each chapter Provides original, state-of-the-art research material written by international and national respected contributors

Machine Learning - Mr. Y. David Solomon Raju, M. Tech, (Ph. D.), LMISTE, LMISOI, FIETE, MIE, MIAENG, Associate Professor, Department of Electronics and Communication Engineering, Holy Mary Institute of Technology & Science (AUTONOMOUS)
Machine Learning WRITTEN BY Y. David Solomon Raju, K. Shyamala, Ch. Sumalatha
Machine Learning - V.K. Jain
Machine Learning employs techniques and theories drawn from many fields within the broad areas of mathematics, statistics, information science, and computer science, in particular from the sud-domains of machine learning, classification, cluster analysis, data mining, database, and visualization. Machine learning is perhaps the hottest thing in Silicon Valley right now, especially deep learning. We have Google's class on Tensor Flow, which teaches you everything you need to know to work in Silicon Valley's top companies. The reason why it is so hot is because it can take over many repetitive, mindless tasks. It'll make doctor better doctors, and lawyers better lawyers and it makes cars drive themselves. For example, when you're booking a taxi, you're shown how much the trip would cost. Or when you're on the trip, you're shown the path the taxi would take to reach your destination. While booking a ride on Uber, you're always told the amount of time the trip would take and how much it would cost. All of that, is Machine Learning! The overall goal of this book "Machine Learning" is to provide a broad understanding of various faces of Machine Learning environment in an integrated manner. It covers the syllabi of all technical universities in India and aboard. The first edition of this book is also been awarded by AICTE and placed in AICTE's latest Model Curriculum in Engineering & Technology as well as Emerging Technology.

Practical Machine Learning with R - Brindha Priyadarshini Jeyaraman 2019-08-30
Understand how machine learning works and get hands-on experience of using R to build algorithms that can solve various real-world problems Key FeaturesGain a comprehensive overview of different machine learning techniquesExplore various methods for selecting a particular algorithmImplement a machine learning project from problem definition through to the final modelBook Description With huge amounts of data being generated every moment, businesses need applications that apply complex mathematical calculations to data repeatedly and at speed. With machine learning techniques and R, you can easily develop these kinds of applications in an efficient way. Practical Machine Learning with R begins by helping you grasp the basics of machine learning methods, while also highlighting how and why they work. You will understand how to get these algorithms to work in practice, rather than focusing on mathematical derivations. As you progress from one chapter to another, you will gain hands-on experience of building a machine learning solution in R. Next, using R packages such as rpart, random forest, and multiple imputation by chained equations (MICE), you will learn to implement algorithms including neural net classifier, decision trees, and linear and non-linear regression. As you progress through the book, you'll delve into various machine learning techniques for both supervised and unsupervised learning approaches. In addition to this, you'll gain insights into partitioning the datasets and mechanisms to evaluate the results from each model and be able to compare them. By the end of this book, you will have gained expertise in

solving your business problems, starting by forming a good problem statement, selecting the most appropriate model to solve your problem, and then ensuring that you do not overtrain it. What you will learnDefine a problem that can be solved by training a machine learning modelObtain, verify and clean data before transforming it into the correct format for usePerform exploratory analysis and extract features from dataBuild models for neural net, linear and non-linear regression, classification, and clusteringEvaluate the performance of a model with the right metricsImplement a classification problem using the neural net packageEmploy a decision tree using the random forest libraryWho this book is for If you are a data analyst, data scientist, or a business analyst who wants to understand the process of machine learning and apply it to a real dataset using R, this book is just what you need. Data scientists who use Python and want to implement their machine learning solutions using R will also find this book very useful. The book will also enable novice programmers to start their journey in data science. Basic knowledge of any programming language is all you need to get started.

Applications of Artificial Intelligence (AI) and Machine Learning (ML) in the Petroleum Industry - Manan Shah 2022-09-02 Today, raw data on any industry is widely available. With the help of artificial intelligence (AI) and machine learning (ML), this data can be used to gain meaningful insights. In addition, as data is the new raw material for today's world, AI and ML will be applied in every industrial sector. Industry 4.0 mainly focuses on the automation of things. From that perspective, the oil and gas industry is one of the largest industries in terms of economy and energy. Applications of Artificial Intelligence (AI) and Machine Learning (ML) in the Petroleum Industry analyzes the use of AI and ML in the oil and gas industry across all three sectors, namely upstream, midstream, and downstream. It covers every aspect of the petroleum industry as related to the application of AI and ML, ranging from exploration, data management, extraction, processing, real-time data analysis, monitoring, cloud-based connectivity system, and conditions analysis, to the final delivery of the product to

the end customer, while taking into account the incorporation of the safety measures for a better operation and the efficient and effective execution of operations. This book explores the variety of applications that can be integrated to support the existing petroleum and adjacent sectors to solve industry problems. It will serve as a useful guide for professionals working in the petroleum industry, industrial engineers, AI and ML experts and researchers, as well as students.

Network Design & Device Configuration - Dr. SYED UMAR 2022-05-01 Network Design & Device Configuration written by Dr. Syed Umar, Dr. N Lingareddy, Mr.Tariku Birhanu Yadesa, Mr.Gamechu Boche Beshan, Mr.Mohammed Kamal, Mr.Tesfaye Gadisa

Hardware Accelerator Systems for Artificial Intelligence and Machine Learning - 2021-03-28 Hardware Accelerator Systems for Artificial Intelligence and Machine Learning, Volume 122 delves into artificial Intelligence and the growth it has seen with the advent of Deep Neural Networks (DNNs) and Machine Learning. Updates in this release include chapters on Hardware accelerator systems for artificial intelligence and machine learning, Introduction to Hardware Accelerator Systems for Artificial Intelligence and Machine Learning, Deep Learning with GPUs, Edge Computing Optimization of Deep Learning Models for Specialized Tensor Processing Architectures, Architecture of NPU for DNN, Hardware Architecture for Convolutional Neural Network for Image Processing, FPGA based Neural Network Accelerators, and much more. Updates on new information on the architecture of GPU, NPU and DNN Discusses In-memory computing, Machine intelligence and Quantum computing Includes sections on Hardware Accelerator Systems to improve processing efficiency and performance

Artificial Intelligence, Machine Learning, and Data Science Technologies - Neeraj Mohan 2021-10-12 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.