

# Customer Analytics Using Deep Learning With Keras To

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

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

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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.

This book highlights the recent research on soft computing and pattern recognition and their various practical applications. It presents 62 selected papers from the 12th International Conference on Soft Computing and Pattern Recognition (SoCPaR 2020) and 35 papers from the 16th International Conference on Information Assurance and Security (IAS 2020), which was held online, from December 15 to 18, 2020. A premier conference in the field of artificial intelligence, SoCPaR-IAS 2020 brought together researchers, engineers and practitioners whose work involves intelligent systems, network security and their applications in industry. Including contributions by authors from 40 countries, the book offers a valuable reference guide for all researchers, students and practitioners in the fields of Computer Science and Engineering.

This book constitutes the post-conference proceedings of the 4th International Conference on Machine Learning, Optimization, and Data Science, LOD 2018, held in Volterra, Italy, in September 2018. The 46 full papers presented were carefully reviewed and selected from 126 submissions. The papers cover topics in the field of machine learning, artificial intelligence, reinforcement learning, computational optimization and data science presenting a substantial array of ideas, technologies, algorithms, methods and applications.

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Many approaches have sprouted from artificial intelligence (AI) and produced major breakthroughs in the computer science and engineering industries. Deep learning is a method that is transforming the world of data and analytics. Optimization of this new approach is still unclear, however, and there's a need for research on the various applications and techniques of deep learning in the field of computing. *Deep Learning Techniques and Optimization Strategies in Big Data Analytics* is a collection of innovative research on the methods and applications of deep learning strategies in the fields of computer science and information systems. While highlighting topics including data integration, computational modeling, and scheduling systems, this book is ideally designed for engineers, IT specialists, data analysts, data scientists, engineers, researchers, academicians, and students seeking current research on deep learning methods and its application in the digital industry.

Deep learning, a branch of Artificial Intelligence and machine learning, has led to new approaches to solving problems in a variety of domains including data science, data analytics and biomedical engineering. *Deep Learning for Data Analytics: Foundations, Biomedical Applications and Challenges* provides readers with a focused approach for the design and implementation of deep learning concepts using data analytics techniques in large scale environments. Deep learning algorithms are based on artificial neural network models to cascade multiple layers of nonlinear processing, which aids in feature extraction and learning in supervised and unsupervised ways, including classification and pattern analysis. Deep learning transforms data through a cascade of layers, helping systems analyze and process complex data sets. Deep learning algorithms extract high level complex data and process these complex sets to relatively simpler ideas formulated in the preceding level of the

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hierarchy. The authors of this book focus on suitable data analytics methods to solve complex real world problems such as medical image recognition, biomedical engineering, and object tracking using deep learning methodologies. The book provides a pragmatic direction for researchers who wish to analyze large volumes of data for business, engineering, and biomedical applications. Deep learning architectures including deep neural networks, recurrent neural networks, and deep belief networks can be used to help resolve problems in applications such as natural language processing, speech recognition, computer vision, bioinformatics, audio recognition, drug design, and medical image analysis. Presents the latest advances in Deep Learning for data analytics and biomedical engineering applications. Discusses Deep Learning techniques as they are being applied in the real world of biomedical engineering and data science, including Deep Learning networks, deep feature learning, deep learning toolboxes, performance evaluation, Deep Learning optimization, deep auto-encoders, and deep neural networks Provides readers with an introduction to Deep Learning, along with coverage of deep belief networks, convolutional neural networks, Restricted Boltzmann Machines, data analytics basics, enterprise data science, predictive analysis, optimization for Deep Learning, and feature selection using Deep Learning

Artificial Intelligence (AI), when incorporated with machine learning and deep learning algorithms, has a wide variety of applications today. This book focuses on the implementation of various elementary and advanced approaches in AI that can be used in various domains to solve real-time decision-making problems. The book focuses on concepts and techniques used to run tasks in an automated manner. It discusses computational intelligence in the detection and diagnosis of clinical and biomedical images, covers the automation of a system through

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machine learning and deep learning approaches, presents data analytics and mining for decision-support applications, and includes case-based reasoning, natural language processing, computer vision, and AI approaches in real-time applications. Academic scientists, researchers, and students in the various domains of computer science engineering, electronics and communication engineering, and information technology, as well as industrial engineers, biomedical engineers, and management, will find this book useful. By the end of this book, you will understand the fundamentals of AI. Various case studies will develop your adaptive thinking to solve real-time AI problems. Features Includes AI-based decision-making approaches Discusses computational intelligence in the detection and diagnosis of clinical and biomedical images Covers automation of systems through machine learning and deep learning approaches and its implications to the real world Presents data analytics and mining for decision-support applications Offers case-based reasoning

Advanced Customer Analytics provides a clear guide to the specific analytical challenges faced by the retail sector. The book covers the nature and scale of data obtained in transactions, relative proximity to the consumer and the need to monitor customer behaviour across multiple channels. The book advocates a category management approach, taking into account the need to understand the consumer mindset through elasticity modelling and discount strategies, as well as targeted marketing and loyalty design. A practical, no-nonsense approach to complex scenarios is taken throughout, breaking down tasks into easily digestible steps. The use of a fictional retail analyst 'Scott' helps to provide accessible examples of practice. Advanced Customer Analytics does not skirt around the complexities of this subject but offers conceptual support to steer retail marketers towards making the right choices for analysing

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their data.

Leverage machine and deep learning models to build applications on real-time data using PySpark. This book is perfect for those who want to learn to use this language to perform exploratory data analysis and solve an array of business challenges. You'll start by reviewing PySpark fundamentals, such as Spark's core architecture, and see how to use PySpark for big data processing like data ingestion, cleaning, and transformations techniques. This is followed by building workflows for analyzing streaming data using PySpark and a comparison of various streaming platforms. You'll then see how to schedule different spark jobs using Airflow with PySpark and book examine tuning machine and deep learning models for real-time predictions. This book concludes with a discussion on graph frames and performing network analysis using graph algorithms in PySpark. All the code presented in the book will be available in Python scripts on Github. What You'll Learn Develop pipelines for streaming data processing using PySpark Build Machine Learning & Deep Learning models using PySpark latest offerings Use graph analytics using PySpark Create Sequence Embeddings from Text data Who This Book is For Data Scientists, machine learning and deep learning engineers who want to learn and use PySpark for real time analysis on streaming data.

In 2019, ISO Technical Committee 279 released a new international standard on innovation management system called ISO 56002:2019. The objective of this standard

is to provide a framework on how to build an innovation ecosystem that can be sustained over time. Similar to the quality management system that ISO established decades ago, this standard provides instructions related to best practices on how to manage innovation activities, projects, and programs. It does not describe detailed activities within the organization, but rather provides guidance at a general level. It does not prescribe any requirements or specific tools or methods for innovation activities. Essentially, the standard does not provide guidance on how to implement and/or use the standard. The standard basically tells you what to do and document -- this powerful book tells you how to do it. The techniques in this book are directed at key tasks across the innovative process, such as maximizing quality, productivity, maintainability, usability, and reliability, while focusing on reducing the product cycle time and costs within the innovative process. Currently, there are no other comprehensive books available on how to fully implement this standard in companies -- This book is crucial for managers, business leaders, entrepreneurs, and consultants looking for help to reap the benefits of an innovation management system. This book takes you step by step through the process of developing an innovation ecosystem. In addition, it provides frameworks, tools, methodologies, cases, and best practices so your organization can experience the full value of the standard.

Starting with an easy introduction to KNIME Analytics Platform, this book will take you through the key features of the platform and cover the advanced and latest deep

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learning concepts in neural networks. In each chapter, you'll solve real-world case studies based on deep learning networks to spark your creativity for new projects.

?These proceedings represent the work of contributors to the 17th International Conference on Intellectual Capital, Knowledge Management & Organisational Learning (ICICKM 2020), hosted by ACI and the University of Toronto, Canada on 15-16 October 2020. The Conference Chairs are Dr. Anthony Wensley, from the University of Toronto and Dr. Max Evans, from McGill University. The Programme Chair is Dr. Ilja Frissen from McGill University.

Who is most likely to buy and what is the best way to target them? How can businesses improve strategy without identifying the key influencing factors? The second edition of Marketing Analytics enables marketers and business analysts to leverage predictive techniques to measure and improve marketing performance. By exploring real-world marketing challenges, it provides clear, jargon-free explanations on how to apply different analytical models for each purpose. From targeted list creation and data segmentation, to testing campaign effectiveness, pricing structures and forecasting demand, this book offers a welcome handbook on how statistics, consumer analytics and modelling can be put to optimal use. The fully revised second edition of Marketing Analytics includes three new chapters on big data analytics, insights and panel regression, including how to collect, separate and analyze big data. All of the advanced tools and techniques for predictive analytics have been updated, translating models



such as tobit analysis for customer lifetime value into everyday use. Whether an experienced practitioner or having no prior knowledge, methodologies are simplified to ensure the more complex aspects of data and analytics are fully accessible for any level of application. Complete with downloadable data sets and test bank resources, this book supplies a concrete foundation to optimize marketing analytics for day-to-day business advantage.

The idea behind this book is to simplify the journey of aspiring readers and researchers to understand Big Data, IoT and Machine Learning. It also includes various real-time/offline applications and case studies in the fields of engineering, computer science, information security and cloud computing using modern tools. This book consists of two sections: Section I contains the topics related to Applications of Machine Learning, and Section II addresses issues about Big Data, the Cloud and the Internet of Things. This brings all the related technologies into a single source so that undergraduate and postgraduate students, researchers, academicians and people in industry can easily understand them. Features Addresses the complete data science technologies workflow Explores basic and high-level concepts and services as a manual for those in the industry and at the same time can help beginners to understand both basic and advanced aspects of machine learning Covers data processing and security solutions in IoT and Big Data applications Offers adaptive, robust, scalable and reliable applications to develop solutions for day-to-day problems Presents security issues and data

migration techniques of NoSQL databases

This book includes selected papers submitted to the ICADABAI-2017 conference, offering an overview of the new methodologies and presenting innovative applications that are of interest to both academicians and practitioners working in the area of analytics. It discusses predictive analytics applications, machine learning applications, human resource analytics, operations analytics, analytics in finance, methodology and econometric applications. The papers in the predictive analytics applications section discuss web analytics, email marketing, customer churn prediction, retail analytics and sports analytics. The section on machine learning applications then examines healthcare analytics, insurance analytics and machine analytics using different innovative machine learning techniques. Human resource analytics addresses important issues relating to talent acquisition and employability using analytics, while a paper in the section on operations analytics describe an innovative application in oil and gas industry. The papers in the analytics in finance part discuss the use of analytical tools in banking and commodity markets, and lastly the econometric applications part presents interesting banking and insurance applications.

Foreword by Oliver Schabenberger, PhD Executive Vice President, Chief Operating Officer and Chief Technology Officer SAS Dive into deep learning! Machine learning and deep learning are ubiquitous in our homes and workplaces—from machine translation to image recognition and predictive analytics to autonomous driving. Deep

learning holds the promise of improving many everyday tasks in a variety of disciplines. Much deep learning literature explains the mechanics of deep learning with the goal of implementing cognitive applications fueled by Big Data. This book is different. Written by an expert in high-performance analytics, *Deep Learning for Numerical Applications with SAS* introduces a new field: Deep Learning for Numerical Applications (DL4NA). Contrary to deep learning, the primary goal of DL4NA is not to learn from data but to dramatically improve the performance of numerical applications by training deep neural networks. *Deep Learning for Numerical Applications with SAS* presents deep learning concepts in SAS along with step-by-step techniques that allow you to easily reproduce the examples on your high-performance analytics systems. It also discusses the latest hardware innovations that can power your SAS programs: from many-core CPUs to GPUs to FPGAs to ASICs. This book assumes the reader has no prior knowledge of high-performance computing, machine learning, or deep learning. It is intended for SAS developers who want to develop and run the fastest analytics. In addition to discovering the latest trends in hybrid architectures with GPUs and FPGAS, readers will learn how to Use deep learning in SAS Speed up their analytics using deep learning Easily write highly parallel programs using the many task computing paradigms This book is part of the SAS Press program.

*Data Analytics Applied to the Mining Industry* describes the key challenges facing the mining sector as it transforms into a digital industry able to fully exploit process automation, remote

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operation centers, autonomous equipment and the opportunities offered by the industrial internet of things. It provides guidelines on how data needs to be collected, stored and managed to enable the different advanced data analytics methods to be applied effectively in practice, through use of case studies, and worked examples. Aimed at graduate students, researchers, and professionals in the industry of mining engineering, this book: Explains how to implement advanced data analytics through case studies and examples in mining engineering Provides approaches and methods to improve data-driven decision making Explains a concise overview of the state of the art for Mining Executives and Managers Highlights and describes critical opportunity areas for mining optimization Brings experience and learning in digital transformation from adjacent sectors

A handy reference guide for data analysts and data scientists to help to obtain value from big data analytics using Spark on Hadoop clusters About This Book This book is based on the latest 2.0 version of Apache Spark and 2.7 version of Hadoop integrated with most commonly used tools. Learn all Spark stack components including latest topics such as DataFrames, DataSets, GraphFrames, Structured Streaming, DataFrame based ML Pipelines and SparkR. Integrations with frameworks such as HDFS, YARN and tools such as Jupyter, Zeppelin, NiFi, Mahout, HBase Spark Connector, GraphFrames, H2O and Hivemall. Who This Book Is For Though this book is primarily aimed at data analysts and data scientists, it will also help architects, programmers, and practitioners. Knowledge of either Spark or Hadoop would be beneficial. It is assumed that you have basic programming background in Scala, Python, SQL, or R programming with basic Linux experience. Working experience within big data environments is not mandatory. What You Will Learn Find out and implement the tools and

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techniques of big data analytics using Spark on Hadoop clusters with wide variety of tools used with Spark and Hadoop Understand all the Hadoop and Spark ecosystem components Get to know all the Spark components: Spark Core, Spark SQL, DataFrames, DataSets, Conventional and Structured Streaming, MLLib, ML Pipelines and Graphx See batch and real-time data analytics using Spark Core, Spark SQL, and Conventional and Structured Streaming Get to grips with data science and machine learning using MLLib, ML Pipelines, H2O, Hivemall, Graphx, SparkR and Hivemall. In Detail Big Data Analytics book aims at providing the fundamentals of Apache Spark and Hadoop. All Spark components – Spark Core, Spark SQL, DataFrames, Data sets, Conventional Streaming, Structured Streaming, MLLib, Graphx and Hadoop core components – HDFS, MapReduce and Yarn are explored in greater depth with implementation examples on Spark + Hadoop clusters. It is moving away from MapReduce to Spark. So, advantages of Spark over MapReduce are explained at great depth to reap benefits of in-memory speeds. DataFrames API, Data Sources API and new Data set API are explained for building Big Data analytical applications. Real-time data analytics using Spark Streaming with Apache Kafka and HBase is covered to help building streaming applications. New Structured streaming concept is explained with an IOT (Internet of Things) use case. Machine learning techniques are covered using MLLib, ML Pipelines and SparkR and Graph Analytics are covered with GraphX and GraphFrames components of Spark. Readers will also get an opportunity to get started with web based notebooks such as Jupyter, Apache Zeppelin and data flow tool Apache NiFi to analyze and visualize data. Style and approach This step-by-step pragmatic guide will make life easy no matter what your level of experience. You will deep dive into Apache Spark on Hadoop clusters through ample exciting

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real-life examples. Practical tutorial explains data science in simple terms to help programmers and data analysts get started with Data Science

The second edition of a comprehensive introduction to machine learning approaches used in predictive data analytics, covering both theory and practice. Machine learning is often used to build predictive models by extracting patterns from large datasets. These models are used in predictive data analytics applications including price prediction, risk assessment, predicting customer behavior, and document classification. This introductory textbook offers a detailed and focused treatment of the most important machine learning approaches used in predictive data analytics, covering both theoretical concepts and practical applications. Technical and mathematical material is augmented with explanatory worked examples, and case studies illustrate the application of these models in the broader business context. This second edition covers recent developments in machine learning, especially in a new chapter on deep learning, and two new chapters that go beyond predictive analytics to cover unsupervised learning and reinforcement learning.

This Edited Volume "Consumer Behavior and Marketing" is a collection of reviewed and relevant research chapters, offering a comprehensive overview of recent developments in the field of psychology. The book comprises single chapters authored by various researchers and edited by an expert active in the research area. All chapters are complete in itself but united under a common research study topic. This publication aims at providing a thorough overview of the latest research efforts by international authors and open new possible research paths for further novel developments.

?This book includes 2 Manuscripts? Are you looking for new ways to grow your business, with

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resources you already have? Do you want to know how the big players like Netflix, Amazon, or Shopify use data analytics to MULTIPLY their growth? Keep listening to learn how to use data analytics to maximize YOUR business.

Explore new and more sophisticated tools that reduce your marketing analytics efforts and give you precise results

**Key Features**

- Study new techniques for marketing analytics
- Explore uses of machine learning to power your marketing analyses
- Work through each stage of data analytics with the help of multiple examples and exercises

**Book Description**

Data Science for Marketing Analytics covers every stage of data analytics, from working with a raw dataset to segmenting a population and modeling different parts of the population based on the segments. The book starts by teaching you how to use Python libraries, such as pandas and Matplotlib, to read data from Python, manipulate it, and create plots, using both categorical and continuous variables. Then, you'll learn how to segment a population into groups and use different clustering techniques to evaluate customer segmentation. As you make your way through the chapters, you'll explore ways to evaluate and select the best segmentation approach, and go on to create a linear regression model on customer value data to predict lifetime value. In the concluding chapters, you'll gain an understanding of regression techniques and tools for evaluating regression models, and explore ways to predict customer choice using classification algorithms. Finally, you'll apply these techniques to create a churn model for modeling customer product choices. By the end of this book, you will be able to build your own marketing reporting and interactive dashboard solutions. What you will learn

- Analyze and visualize data in Python using pandas and Matplotlib
- Study clustering techniques, such as hierarchical and k-means clustering
- Create customer segments based on manipulated data

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Predict customer lifetime value using linear regression Use classification algorithms to understand customer choice Optimize classification algorithms to extract maximal information Who this book is for Data Science for Marketing Analytics is designed for developers and marketing analysts looking to use new, more sophisticated tools in their marketing analytics efforts. It'll help if you have prior experience of coding in Python and knowledge of high school level mathematics. Some experience with databases, Excel, statistics, or Tableau is useful but not necessary.

Deep Learning and Parallel Computing Environment for Bioengineering Systems delivers a significant forum for the technical advancement of deep learning in parallel computing environment across bio-engineering diversified domains and its applications. Pursuing an interdisciplinary approach, it focuses on methods used to identify and acquire valid, potentially useful knowledge sources. Managing the gathered knowledge and applying it to multiple domains including health care, social networks, mining, recommendation systems, image processing, pattern recognition and predictions using deep learning paradigms is the major strength of this book. This book integrates the core ideas of deep learning and its applications in bio engineering application domains, to be accessible to all scholars and academicians. The proposed techniques and concepts in this book can be extended in future to accommodate changing business organizations' needs as well as practitioners' innovative ideas. Presents novel, in-depth research contributions from a methodological/application perspective in understanding the fusion of deep machine learning paradigms and their capabilities in solving a diverse range of problems Illustrates the state-of-the-art and recent developments in the new theories and applications of deep learning approaches applied to parallel computing



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environment in bioengineering systems Provides concepts and technologies that are successfully used in the implementation of today's intelligent data-centric critical systems and multi-media Cloud-Big data

This book on marketing analytics with Python will quickly get you up and running using practical data science and machine learning to improve your approach to marketing. You'll learn how to analyze sales, understand customer data, predict outcomes, and present conclusions with clear visualizations.

This book discuss how deep learning can help healthcare images or text data in making useful decisions”. For that, the need of reliable deep learning models like Neural networks, Convolutional neural network, Backpropagation, Recurrent neural network is increasing in medical image processing, i.e., in Colorization of Black and white images of X-Ray, automatic machine translation, object classification in photographs / images (CT-SCAN), character or useful generation (ECG), image caption generation, etc. Hence, Reliable Deep Learning methods for perception or producing better results are highly effective for e-healthcare applications, which is the challenge of today. For that, this book provides some reliable deep learning or deep neural networks models for healthcare applications via receiving chapters from around the world. In summary, this book will cover introduction, requirement, importance, issues and challenges, etc., faced in available current deep learning models (also include innovative deep learning

algorithms/ models for curing disease in Medicare) and provide opportunities for several research communities with including several research gaps in deep learning models (for healthcare applications).

Interest in big data has swelled within the scholarly community as has increased attention to the internet of things (IoT). Algorithms are constructed in order to parse and analyze all this data to facilitate the exchange of information. However, big data has suffered from problems in connectivity, scalability, and privacy since its birth. The application of deep learning algorithms has helped process those challenges and remains a major issue in today's digital world. *Advanced Deep Learning Applications in Big Data Analytics* is a pivotal reference source that aims to develop new architecture and applications of deep learning algorithms in big data and the IoT. Highlighting a wide range of topics such as artificial intelligence, cloud computing, and neural networks, this book is ideally designed for engineers, data analysts, data scientists, IT specialists, programmers, marketers, entrepreneurs, researchers, academicians, and students.

Data science revolves around two giants: Big Data analytics and Deep Learning. It is becoming challenging to handle and retrieve useful information due to how fast data is expanding. This book presents the technologies and tools to simplify and streamline the formation of Big Data as well as Deep Learning systems. This

book discusses how Big Data and Deep Learning hold the potential to significantly increase data understanding and decision-making. It also covers numerous applications in healthcare, education, communication, media, and entertainment. Integrating Deep Learning Algorithms to Overcome Challenges in Big Data Analytics offers innovative platforms for integrating Big Data and Deep Learning and presents issues related to adequate data storage, semantic indexing, data tagging, and fast information retrieval. FEATURES Provides insight into the skill set that leverages one's strength to act as a good data analyst Discusses how Big Data and Deep Learning hold the potential to significantly increase data understanding and help in decision-making Covers numerous potential applications in healthcare, education, communication, media, and entertainment Offers innovative platforms for integrating Big Data and Deep Learning Presents issues related to adequate data storage, semantic indexing, data tagging, and fast information retrieval from Big Data This book is aimed at industry professionals, academics, research scholars, system modelers, and simulation experts.

This book presents deep learning techniques, concepts, and algorithms to classify and analyze big data. Further, it offers an introductory level understanding of the new programming languages and tools used to analyze big

data in real-time, such as Hadoop, SPARK, and GRAPHX. Big data analytics using traditional techniques face various challenges, such as fast, accurate and efficient processing of big data in real-time. In addition, the Internet of Things is progressively increasing in various fields, like smart cities, smart homes, and e-health. As the enormous number of connected devices generate huge amounts of data every day, we need sophisticated algorithms to deal, organize, and classify this data in less processing time and space. Similarly, existing techniques and algorithms for deep learning in big data field have several advantages thanks to the two main branches of the deep learning, i.e. convolution and deep belief networks. This book offers insights into these techniques and applications based on these two types of deep learning. Further, it helps students, researchers, and newcomers understand big data analytics based on deep learning approaches. It also discusses various machine learning techniques in concatenation with the deep learning paradigm to support high-end data processing, data classifications, and real-time data processing issues. The classification and presentation are kept quite simple to help the readers and students grasp the basics concepts of various deep learning paradigms and frameworks. It mainly focuses on theory rather than the mathematical background of the deep learning concepts. The book consists of 5 chapters, beginning with an introductory explanation of big

data and deep learning techniques, followed by integration of big data and deep learning techniques and lastly the future directions.

This book is designed to meet the needs of CFOs, accounting and financial professionals interested in leveraging the power of data-driven customer insights in management accounting and financial reporting systems. While academic research in Marketing has developed increasingly sophisticated analytical tools, the role of customer analytics as a source of value creation from an Accounting and Finance perspective has received limited attention. The authors aim to fill this gap by blending interdisciplinary academic rigor with practical insights from real-world applications. Readers will find thorough coverage of advanced customer accounting concepts and techniques, including the calculation of customer lifetime value and customer equity for internal decision-making and for external financial reporting and valuation. Beyond a professional audience, the book will serve as ideal companion reading for students enrolled in undergraduate, graduate, or MBA courses.

Are you a new business owner? Or an entrepreneur looking to catch up to the big companies in your industrial sector? If you want to understand and master the fundamentals and importance of data science technologies to kick start your business or take it to the next level, then keep reading. Thanks to the smart and

savvy customer of today, the competition to gain new customers while retaining the existing customers is fierce. As a result, companies are increasingly relying upon cutting edge technologies such as big data analytics, data mining technology, machine learning, and artificial intelligence technology to gain an edge over the competition. Today, machine learning and artificial intelligence have given rise to sophisticated machines that can study human behavior and activity to identify underlying human behavioral patterns and precisely predict what products and services consumers are interested in. Businesses with an eye on the future are gradually turning into technology companies under the façade of their intended business model. It is getting increasingly challenging for traditional businesses to retain their customers without adopting one or more of the cutting-edge technology explained in this book. Those entrepreneurs and business executives who have a sound understanding of the current challenges and status of their business will be primed to make informed decisions to meet the challenges head-on and improve their bottom line. Receive overarching guidance on how you can adopt any and all of the Data Science technologies in your business model to accelerate your growth rate. Learn how researchers are breaking the boundaries of data science to mimic human intelligence in machines. Learn the data science lifecycle in such extensive detail that you will

be fully prepared to initiate and complete a data science implementation project in your business. Learn all about the historical development to the current explosion in this field of Big Data Analytics and how it differs data visualization techniques. Dig deep into the data mining process, the benefits of using data mining technology, the challenges facing the data mining technology and learn about some data mining tools that you can leverage for your business. Gain an in-depth understanding of various machine learning algorithms do assess the best Machine learning algorithm applicable to your business model. Learn the very important concept of data science and machine learning Decision Trees, applicable to small and large businesses across the industrial spectrum, explained thoroughly using real-life examples for ease of understanding. Master the concept of sales and marketing funnel along with the tools available for sales funnel analytics in the market today. Deep dive into the concept of personalized marketing, predictive analytics, customer analytics, and exploratory data analysis presented with details on how you can make sense out of all your customer behavioral data. This book is filled with real-life examples to help you understand the nitty-gritty of all the concepts as well as names and description of multiple tools that you can further explore and selectively implement in your business to reap the benefits of these cutting-edge technologies. Would You Like to Know

More? Get This Book Today to get access to Artificial Intelligence and Machine Learning power.

Fundamentals of Machine Learning for Predictive Data Analytics, second edition Algorithms, Worked Examples, and Case Studies MIT Press

Make personalized marketing a reality with this practical guide to predictive analytics Predictive Marketing is a predictive analytics primer for organizations large and small, offering practical tips and actionable strategies for implementing more personalized marketing immediately. The marketing paradigm is changing, and this book provides a blueprint for navigating the transition from creative-to data-driven marketing, from one-size-fits-all to one-on-one, and from marketing campaigns to real-time customer experiences. You'll learn how to use machine-learning technologies to improve customer acquisition and customer growth, and how to identify and re-engage at-risk or lapsed customers by implementing an easy, automated approach to predictive analytics. Much more than just theory and testament to the power of personalized marketing, this book focuses on action, helping you understand and actually begin using this revolutionary approach to the customer experience. Predictive analytics can finally make personalized marketing a reality. For the first time, predictive marketing is accessible to all marketers, not just those at large corporations — in fact, many



smaller organizations are leapfrogging their larger counterparts with innovative programs. This book shows you how to bring predictive analytics to your organization, with actionable guidance that get you started today. Implement predictive marketing at any size organization Deliver a more personalized marketing experience Automate predictive analytics with machine learning technology Base marketing decisions on concrete data rather than unproven ideas Marketers have long been talking about delivering personalized experiences across channels. All marketers want to deliver happiness, but most still employ a one-size-fits-all approach. Predictive Marketing provides the information and insight you need to lift your organization out of the campaign rut and into the rarefied atmosphere of a truly personalized customer experience.

Tomorrow's customers need to be targeted today! With emerging technology transforming customer expectations, it's more important than ever to keep a laser focus on the experience companies provide their customers. In *The Customer of the Future*, customer experience futurist Blake Morgan outlines ten easy-to-follow customer experience guidelines that integrate emerging technologies with effective strategies to combat disconnected processes, silo mentalities, and a lack of buyer perspective. Tomorrow's customers will insist on experiences that make their lives significantly easier and better. Companies will win their business not by just proclaiming that customer experience is a priority but by embedding a customer focus into

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every aspect of their operations. They'll understand how emerging technologies like artificial intelligence (AI), automation, and analytics are changing the game and craft a strategy to integrate them into their products and processes. The Customer of the Future explains how today's customers are already demanding frictionless, personalized, on-demand experiences from their products and services, and companies that don't adapt to these new expectations won't last. This book prepares your organization for these increasing demands by helping you do the following: Learn the ten defining strategies for a customer experience-focused company. Implement new techniques to shift the entire company from being product-focused to being customer-focused. Gain insights through case studies and examples on how the world's most innovative companies are offering new and compelling customer experiences. Craft a leadership development and culture plan to create lasting change at your organization. This book presents the proceedings of the International Conference on Emerging Research in Electronics, Computer Science and Technology (ICERECT) organized by PES College of Engineering in Mandya. Featuring cutting-edge, peer-reviewed articles from the field of electronics, computer science and technology, it is a valuable resource for members of the scientific research community.

The Machine Age of Customer Insight demonstrates the impact of machine learning and data analytics, combining an academic state-of-the-art overview of machine learning with cases from well-known companies. These cases show the opportunities and challenges of the transformation process for business and for customer insights more specifically.

Build analytics for video using TensorFlow, Keras, and YOLO. This book guides you through the field of deep learning starting with neural networks, taking a deep dive into convolutional

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neural networks, recurrent neural networks, and long short-term memory (LSTM) networks. Video Analytics Using Deep Learning closes with practical examples of building image filters and video masking using generative models. The examples within the book cover topics from domains such as traffic recognition for self-driving cars; face recognition and emotion analysis for retail analytics; object and tamper detection for safety and security; and image filters and video masking for social networks and web applications. To enable you to make a smooth transition into deep learning, the book covers mathematical pre-requisites and includes an introduction to deep learning. You'll also cover topics such as storage of large video content for processing on the cloud and working with the connectors involved. All the code and samples in the book are provided as iPython. What You Will Learn Master TensorFlow, Keras, and YOLO Work with face recognition, age detection, and gender identification Apply CNN, RNN and generative models in deep learning Use emotion analysis and gesture detection Carry out traffic recognition in real-time Who This Book Is For Data scientists and machine learning developers looking to build applications based on video in finance, healthcare, automotive, transport, safety/security, and home automation. /div

Master Deep Learning & Leverage Business Analytics - the Easy Way! Deep Learning for Business With R takes you on a gentle, fun and unhurried journey to building your own deep neural network models for business use in R. Using plain language, it offers an intuitive, practical, non-mathematical, easy to follow guide to the most successful ideas, outstanding techniques and usable solutions available using R. BUSINESS ANALYTICS FAST! This book is an ideal introduction to deep learning for business analytics. It is designed to be accessible. It will teach you, in simple and easy-to-understand terms, how to take advantage of deep

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learning to enhance business outcomes. **NO EXPERIENCE REQUIRED** I'm assuming you never did like linear algebra, don't want to see things derived, dislike complicated computer code, and you're here because you want to see how to use deep neural networks for business problems explained in plain language, and try them out for yourself. **THIS BOOK IS FOR YOU IF YOU WANT:** Explanations rather than mathematical derivation Real world applications that make sense. Illustrations to deepen your understanding. Worked examples in R you can easily follow and immediately implement. Ideas you can actually use and try on your own data. **QUICK AND EASY:** Deep Learning is little more than using straight-forward steps to process data into actionable insight. And in *Deep Learning for Business with R*, author Dr. N.D Lewis will show you how that's done. It's easier than you think. Through a simple to follow process you will learn how to build deep neural network models for business problems in R. Once you have mastered the process, it will be easy for you to translate your knowledge into your own powerful business applications. **TAKE THE SHORTCUT:** R is easy to use, available on all major operating systems and free! Each chapter covers, step by step, a different aspect of deep neural networks. You get your hands dirty as you work through some challenging real world business issues. **YOU'LL LEARN HOW TO:** Unleash the power of Deep Neural Networks for classifying the popularity of online news stories.. Develop hands on solutions for assessing customer churn.. Design successful applications for modeling customer brand choice. Master techniques for efficient product demand forecasting. Deploy deep neural networks to predict credit card expenditure. Adopt winning solutions to forecast the value of automobiles. **ACCELERATE YOUR PROGRESS** If you want to accelerate your progress and act on what you have learned, this book is the place to get started. It reveals how deep neural

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networks work, and takes you under the hood with an easy to follow process showing you how to build them faster than you imagined possible using the powerful and free R programming language. Everything you need to get started is contained within this book. Deep Learning for Business With R is your very own hands on practical, tactical, easy to follow guide to mastery Buy this book today your next big breakthrough using deep neural networks is only a page away!

Learn how to process and analysis data using Python **KEY FEATURES** - The book has theories explained elaborately along with Python code and corresponding output to support the theoretical explanations. The Python codes are provided with step-by-step comments to explain each instruction of the code. - The book is not just dealing with the background mathematics alone or only the programs but beautifully correlates the background mathematics to the theory and then finally translating it into the programs. - A rich set of chapter-end exercises are provided, consisting of both short-answer questions and long-answer questions. **DESCRIPTION** This book introduces the fundamental concepts of Data Science, which has proved to be a major game-changer in business solving problems. Topics covered in the book include fundamentals of Data Science, data preprocessing, data plotting and visualization, statistical data analysis, machine learning for data analysis, time-series analysis, deep learning for Data Science, social media analytics, business analytics, and Big Data analytics. The content of the book describes the fundamentals of each of the Data Science related topics together with illustrative examples as to how various data analysis techniques can be implemented using different tools and libraries of Python programming language. Each chapter contains numerous examples and illustrative output to explain the

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important basic concepts. An appropriate number of questions is presented at the end of each chapter for self-assessing the conceptual understanding. The references presented at the end of every chapter will help the readers to explore more on a given topic. WHAT WILL YOU LEARN Perform processing on data for making it ready for visual plot and understand the pattern in data over time. Understand what machine learning is and how learning can be incorporated into a program. Know how tools can be used to perform analysis on big data using python and other standard tools. Perform social media analytics, business analytics, and data analytics on any data of a company or organization. WHO THIS BOOK IS FOR The book is for readers with basic programming and mathematical skills. The book is for any engineering graduates that wish to apply data science in their projects or wish to build a career in this direction. The book can be read by anyone who has an interest in data analysis and would like to explore more out of interest or to apply it to certain real-life problems. TABLE OF CONTENTS 1. Fundamentals of Data Science1 2. Data Preprocessing 3. Data Plotting and Visualization 4. Statistical Data Analysis 5. Machine Learning for Data Science 6. Time-Series Analysis 7. Deep Learning for Data Science 8. Social Media Analytics 9. Business Analytics 10. Big Data Analytics

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