A Deeper Understanding Of Spark S Internals

Pick up these eight standalone novellas featuring kick-ass female leads who certainly aren’t waiting around to be rescued. Hunters and Prey includes Paranormal Romance, Urban Fantasy and Sci-fi Romance titles. Blood From a Stone—May Sage Viola has spent the last hundred years searching for the heir to the Eirikrsen’s name and fortune, unaware that finding him would change everything. Witch Me Not—Yumoyori Wilson Cursed with powers she doesn't want, Alice will push and shove the destiny fate wants her to embrace. Turning the Tide—Domino Taylor Merwoman Commander Elpis’s love life has been a storm of bad decisions, but a chance meeting with a dying sailor lost at sea leads her to discovering there are worst mistakes than dating the wrong man—like almost missing out on the right one. Legacy of Oath and Blood—KN Lee Cailyn knew she was special. Her premonitions come to life, and her dreams might be prophetic. When a hot stranger from Scotland moves to her small town, dark secrets are brought to life, and it is up to Cailyn to protect her family, and her future. An ancient truce is threatened, and losing her freedom may be all that will hold it together. Phoenix Awakened—Erin Bedford After her vampire lover was killed she swore she'd never hunt again. Until now. Black Dreams—JC Andrijeski Miriam’s dreams start following her back into the real world, scaring the hell out of her husband, military-trained seer, Quentin Black. Warrior Prince of Hai—Emma Dean Roman is one of the last winged males in the galaxy. His entire life changed the moment he set eyes on the woman sent to cure his people. Dragon Trial—Debbie Cassidy The stories say that the dragons saved humanity, but all they left were ashes, cinder and a new breed of human. Welcome to the Outlands, where nobody cares if you scream.

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

Annotation. Improvised music performance offers remarkable and dramatic examples of the talented ways in which group members can interact and inspire each other. Such musical sessions can serve as examples of improvised performance of groups in general. This thesis reports on ways of initiating and supporting talented group improvisation. It addresses the question which interface is needed to generate collectives with collective talent. Inspired by Pask's Conversation Theory, the author has developed a theory for supporting collective talent. The approach and results are not restricted to music, but should yield interest to fields as management & organization and ICT. This title can be previewed in Google Books - http://books.google.com/books?vid=ISBN9789056294427.

Before you can build analytics tools to gain quick insights, you first need to know how to process data in real time. With this practical guide, developers familiar with Apache Spark will learn how to put this in-memory framework to use for streaming data. You’ll discover how Spark enables you to write streaming jobs in almost the same way you write batch jobs. Authors Gerard Maas and François Garillot help you explore the theoretical underpinnings of Apache Spark. This comprehensive guide features two sections that compare and contrast the streaming APIs Spark now supports: the original Spark Streaming library and the newer Structured Streaming API. Learn fundamental stream processing concepts and examine different streaming architectures Explore Structured Streaming through practical examples; learn different aspects of stream processing in detail Create and operate streaming jobs and applications with Spark Streaming; integrate Spark Streaming with other Spark APIs Learn advanced Spark Streaming techniques, including approximation algorithms and machine learning algorithms Compare Apache Spark to other stream processing projects, including Apache Storm, Apache Flink, and Apache Kafka Streams

Teachers know that their students love to explore and learn. But, how do we make this possible with thirty students, with different needs, learning styles, and backgrounds, all in one small room with one teacher in the class? Designed to help teachers reflect on their current teaching practice, "Student-Driven Learning" suggests small shifts, medium-sized ideas, and big changes that can be made to encourage student engagement through flexible, student-centered learning. Experiential earning that is student-driven fosters autonomy and shifts the focus from the knowledge and influence of the teacher to the experiences of the students. Student-Driven Learning helps teachers introduce opportunities for students to learn their own way, to take initiative,

and to experience, wonder, and create.

Build assessments you can really use | Unlock the how, when, what, and why Watch your system become greater than its parts by building local capacity through common language and deeper knowledge of assessment components. For years, educators have turned to the Hess Cognitive Rigor Matrices (CRM). Now for the first time, the modules are packaged into one resource to help you evaluate the quality and premise of your current assessment system. Designed as a professional development guide for long-term use by school leaders, five content-rich, topic-based modules: Offer field-tested, teacher-friendly strategies for local school test development Can be used for individual or professional development opportunities Allow for sequential or non-sequential use

If you’re like most R users, you have deep knowledge and love for statistics. But as your organization continues to collect huge amounts of data, adding tools such as Apache Spark makes a lot of sense. With this practical book, data scientists and professionals working with large-scale data applications will learn how to use Spark from R to tackle big data and big compute problems. Authors Javier Luraschi, Kevin Kuo, and Edgar Ruiz show you how to use R with Spark to solve different data analysis problems. This book covers relevant data science topics, cluster computing, and issues that should interest even the most advanced users. Analyze, explore, transform, and visualize data in Apache Spark with R Create statistical models to extract information and predict outcomes; automate the process in production-ready workflows Perform analysis and modeling across many machines using distributed computing techniques Use large-scale data from multiple sources and different formats with ease from within Spark Learn about alternative modeling frameworks for graph processing, geospatial analysis, and genomics at scale Dive into advanced topics including custom transformations, real-time data processing, and creating custom Spark extensions

This book is for those people that are looking for a better explanation about why the world is going through such dramatic changes. It, also, offers those that are seeking a better way to live their life. It is my wish to share my experiences and visions of the future in a hope that it will trigger others to awaken to a fuller and more enlightened state. Love and happiness should be the goal of every individual on this planet. These truths show us that we no longer need to allow those few individuals with extreme greed to dominate our empowerment toward the future. In this time, the possibilities are there for all of us to create new realities based on respect and understanding. What are these new realities, and how are these concepts of creating new ways of being? We are no longer divided by race or religion; of course, only time will tell as we change. This book is designed to awaken, prepare, and help you to begin the process. For those who are here to be of service, time is no longer a luxury. We must all awaken to our individual dharma and do what we are here to do. As the world changes, are we going to change with it, or are we going to wallow in the fear that nothing will ever change? The choice is yours! Follow Heavenly Lessons in your spiritual life to continue on the path. Be blessed! Be loved! Be happy!

Harness the power of Scala to program Spark and analyze tonnes of data in the blink of an eye! About This Book Learn Scala's sophisticated type system that combines Functional Programming and object-oriented concepts Work on a wide array of applications, from simple batch jobs to stream processing and machine learning Explore the most common as well as some complex use-cases to perform large-scale data analysis with Spark Who This Book Is For Anyone who wishes to learn how to perform data analysis by harnessing the power of Spark will find this book extremely useful. No knowledge of Spark or Scala is assumed, although prior programming experience (especially with other JVM languages) will be useful to pick up concepts quicker. What You Will Learn Understand object-oriented & functional programming concepts of Scala In-depth understanding of Scala collection APIs Work with RDD and DataFrame to learn Spark's core abstractions Analysing structured and unstructured data using SparkSQL and GraphX Scalable and fault-tolerant streaming application development using Spark structured streaming Learn machine-learning best practices for classification, regression, dimensionality reduction, and recommendation system to build predictive models with widely used algorithms in Spark MLlib & ML Build clustering models to cluster a vast amount of data Understand tuning, debugging, and monitoring Spark applications Deploy Spark applications on real clusters in Standalone, Mesos, and YARN In Detail Scala has been observing wide adoption over the past few years, especially in the field of data science and analytics. Spark, built on Scala, has gained a lot of recognition and is being used widely in productions. Thus, if you want to leverage the power of Scala and Spark to make sense of big data, this book is for you. The first part introduces you to Scala, helping you understand the object-oriented and functional programming concepts needed for Spark application development. It then moves on to Spark to cover the basic abstractions using RDD and DataFrame. This will help you develop scalable and fault-tolerant streaming applications by analyzing structured and unstructured data using SparkSQL, GraphX, and Spark structured streaming. Finally, the book moves on to some advanced topics, such as monitoring, configuration, debugging, testing, and deployment. You will also learn how to develop Spark applications using SparkR and PySpark APIs, interactive data analytics using Zeppelin, and in-memory data processing with Alluxio. By the end of this book, you will have a thorough understanding of Spark, and you will be able to perform full-stack data analytics with a feel that no amount of data is too big. Style and approach Filled with practical examples and use cases, this book will hot only help you get up and running with Spark, but will also take you farther down the road to becoming a data scientist.

"Towards a deeper understanding of the Holy Mass (the history of the Holy Mass)" is comprised of 15 chapters and focuses on the precedents of the Holy Mass in the olden days, and how it started in different nations across the globe. The book also reviews the major changes that impacted the practice and spirit of the Holy Mass following the Vatican II Council of the late 1950s to mid-1960s. Author_Bio: Chima is very passionate about history cum culture and believes that the promotion as well as the preservation of these societal foundation stones(on an individual and collective basis) will foster global peace and unity.Facets of both can be observed in our daily living too,in his reckoning.Apart from being an advocate of a number of societies in the Catholic Church, he has backgrounds in Market Research and Communication. Whenever he winds down either through watching films(thrillers are his choice flicks) or listening to music(preferably soft stuff),he keeps a keen subconscious ear alert for tiny strands of his primary pursuit. Keywords: History, Holy Mass, Worldwide, Catholic-Church, Holy-Sacrifice, Pope, Testimony, Saint, Holy Communion, Sacred

Advanced analytics on your Big Data with latest Apache Spark 2.x About This Book An advanced guide with a combination of instructions and practical examples to extend the most up-to date Spark functionalities. Extend your data processing capabilities to process huge chunk of data in minimum time using advanced concepts in Spark. Master the art of real-time processing with the help of Apache Spark 2.x Who This Book Is For If you are a developer with some experience with Spark and want to strengthen your knowledge of how to get around in the world of Spark, then this book is ideal for you. Basic knowledge of Linux, Hadoop and Spark is assumed. Reasonable knowledge of Scala is expected. What You Will Learn Examine Advanced Machine Learning and DeepLearning with MLlib, SparkML, SystemML, H2O and DeepLearning4J Study highly optimised unified batch and real-time data processing using SparkSQL and Structured Streaming Evaluate large-scale Graph Processing and Analysis using GraphX and GraphFrames Apply Apache Spark in Elastic deployments using Jupyter and Zeppelin Notebooks, Docker, Kubernetes and the IBM Cloud Understand internal details of cost based optimizers used in Catalyst, SystemML and GraphFrames Learn how specific parameter settings affect overall performance of an Apache Spark cluster Leverage Scala, R and python for your data science

projects In Detail Apache Spark is an in-memory cluster-based parallel processing system that provides a wide range of functionalities such as graph processing, machine learning, stream processing, and SQL. This book aims to take your knowledge of Spark to the next level by teaching you how to expand Spark's functionality and implement your data flows and machine/deep learning programs on top of the platform. The book commences with an overview of the Spark ecosystem. It will introduce you to Project Tungsten and Catalyst, two of the major advancements of Apache Spark 2.x. You will understand how memory management and binary processing, cache-aware computation, and code generation are used to speed things up dramatically. The book extends to show how to incorporate H20, SystemML, and Deeplearning4j for machine learning, and Jupyter Notebooks and Kubernetes/Docker for cloud-based Spark. During the course of the book, you will learn about the latest enhancements to Apache Spark 2.x, such as interactive querying of live data and unifying DataFrames and Datasets. You will also learn about the updates on the APIs and how DataFrames and Datasets affect SQL, machine learning, graph processing, and streaming. You will learn to use Spark as a big data operating system, understand how to implement advanced analytics on the new APIs, and explore how easy it is to use Spark in day-to-day tasks. Style and approach This book is an extensive guide to Apache Spark modules and tools and shows how Spark's functionality can be extended for real-time processing and storage with worked examples.

This book describes spark plasma sintering (SPS) in depth. It addresses fundamentals and material-specific considerations, techniques, and applications across a broad spectrum of materials. The book highlights methods used to consolidate metallic or ceramic particles in very short times. It highlights the production of complex alloys and metal matrix composites with enhanced mechanical and wear properties. Emphasis is placed on the speed of the sintering processes, uniformity in product microstructure and properties, reduced grain growth, the compaction and sintering of materials in one processing step, various materials processing, and high energy efficiency. Current and potential applications in space science and aeronautics, automation, mechanical engineering, and biomedicine are addressed throughout the book.

The SAGE Encyclopedia of World Poverty, Second Edition addresses the persistence of poverty across the globe while updating and expanding the landmark work, Encyclopedia of World Poverty, originally published in 2006 prior to the economic calamities of 2008. For instance, while continued high rates of income inequality might be unsurprising in developing countries such as Mexico, the Organization of Economic Co-operation and Development (OECD) reported in May 2013 even countries with historically low levels of income inequality have experienced significant increases over the past decade, including Denmark, Sweden, and Germany. The U.N. and the World Bank also emphasize the persistent nature of the problem. It is not all bad news. In March 2013, the Guardian newspaper reported, “Some of the poorest people in the world are becoming significantly less poor, according to a groundbreaking academic study which has taken a new approach to measuring deprivation. The report, by Oxford University’s poverty and human development initiative, predicts that countries among the most impoverished in the world could see acute poverty eradicated within 20 years if they continue at present rates.” On the other hand, the U.N. says environmental threats from climate change could push billions more into extreme poverty in coming decades. All of these points lead to the need for a revised, updated, and expanded edition of the Encyclopedia of World Poverty. Key Features: 775 evaluated and updated and 175 entirely new entries New Reader’s Guide categories Signed articles, with cross-references Further Readings will be accompanied by pedagogical elements Updated Chronology, Resource Guide, Glossary, and thorough new Index The SAGE Encyclopedia of World Poverty, Second Edition is a dependable source for students and researchers who are researching world poverty, making it a must-have reference for all academic libraries.

Argues that Holocaust representation has ethical implications fundamentally linked to questions of good and evil. Many books focus on issues of Holocaust representation, but few address why the Holocaust in particular poses such a representational problem. David Patterson draws from Emmanuel Levinas’s contention that the Good cannot be represented. He argues that the assault on the Good is equally nonrepresentable and this nonrepresentable aspect of the Holocaust is its distinguishing feature. Utilizing Jewish religious thought, Patterson examines how the literary word expresses the ineffable and how the photographic image manifests the invisible. Where the Holocaust is concerned, representation is a matter not of imagination but of ethical implication, not of what it was like but of what must be done. Ultimately Patterson provides a deeper understanding of why the Holocaust itself is indefinable—not only as an evil but also as a fundamental assault on the very categories of good and evil affirmed over centuries of Jewish teaching and testimony. “This book commands respect, both for the author’s immense and intimate knowledge of what has become a vast body of work and for his unconditional commitment to the subject. I am in awe of what I have just read.” — Dorota Glowacka, coeditor of Between Ethics and Aesthetics: Crossing the Boundaries

Data is bigger, arrives faster, and comes in a variety of formats—and it all needs to be processed at scale for analytics or machine learning. But how can you process such varied workloads efficiently? Enter Apache Spark. Updated to include Spark 3.0, this second edition shows data engineers and data scientists why structure and unification in Spark matters. Specifically, this book explains how to perform simple and complex data analytics and employ machine learning algorithms. Through step-by-step walk-throughs, code snippets, and notebooks, you’ll be able to: Learn Python, SQL, Scala, or Java high-level Structured APIs Understand Spark operations and SQL Engine Inspect, tune, and debug Spark operations with Spark configurations and Spark UI Connect to data sources: JSON, Parquet, CSV, Avro, ORC, Hive, S3, or Kafka Perform analytics on batch and streaming data using Structured Streaming Build reliable data pipelines with open source Delta Lake and Spark Develop machine learning pipelines with MLlib and productionize models using MLflow

Pioneering work shows how using Diagrams facilitates the design of better AI systems The publication of Diagrammatic Reasoning in AI marks an important milestone for anyone seeking to design graphical user interfaces to support decision-making and problem-solving tasks. The author expertly demonstrates how diagrammatic representations can simplify our interaction with increasingly complex information technologies and computer-based information systems. In particular, the book emphasizes how diagrammatic user interfaces can help us better understand and visualize artificial intelligence (AI) systems. It examines how diagrammatic reasoning enhances various AI programming strategies used to emulate human thinking and problem-solving, including: Expert systems Model-based reasoning Inexact reasoning such as certainty factors and Bayesian networks Logic reasoning A key part of the book is its extensive development of applications and graphical illustrations, drawing on such fields as the physical sciences, macroeconomics, finance, business logistics management, and medicine. Despite such tremendous diversity of usage, in terms of applications and diagramming notations, the book classifies and organizes diagrams around six major themes: system topology; sequence and flow; hierarchy and classification; association; cause and effect; and logic reasoning. Readers will benefit from the author's discussion of how diagrams can be more than just a static picture or representation and how diagrams can be a central part of an intelligent user interface, meant to be manipulated and modified, and in some cases, utilized to infer solutions to difficult problems. This book is ideal for many different types of readers: practitioners and researchers in AI and human-computer interaction; business and computing professionals; graphic designers and designers of graphical user interfaces; and just about anyone interested in understanding the power of diagrams. By discovering the many different types of diagrams and their applications in AI, all readers will gain a deeper appreciation of diagrammatic reasoning.

Attain greater self-awareness and orient toward your highest potential through a process of engaged, incisive questioning. It’s been said that finding the right question is as important as finding its answer. As author Jennie Lee writes, “Quality questions lead to quality answers. Questions promote deeper thought, connection, authenticity, and humility.” In Spark Change, Lee

shows you how to identify your most important personal questions and explore how they might redefine the trajectory of your life. Here, Lee guides you through 108 inspiring prompts designed to deepen your awareness of your innermost needs and initiate powerful shifts throughout your life. Whether it's examining the attitudes that hold you back or investigating where you truly want to go in life, these guided inquiries are meant to cultivate gratitude for your gifts, peace with the present moment, and resilience in the face of life's challenges. For the last two decades, Lee has used conscious inquiry practices to encourage self-reflection in her yoga therapy practice. Inspired by the source teachings of classical yoga as well as Lee's own inner journey, these prompts delve into some of the most enduring questions of psychology, self-improvement, and the spiritual path. With Lee's piercing insight and constant guidance, Spark Change provides 108 prime opportunities to stop, ponder, and listen to the call of your most essential self.

This book constitutes the refereed proceedings of the 4th Chinese Conference, IVS 2016, held in Beijing, China, in October 2016. The 19 revised full papers presented were carefully reviewed and selected from 45 submissions. The papers are organized in topical sections on low-level preprocessing, surveillance systems; tracking, robotics; identification, detection, recognition; behavior, activities, crowd analysis.

Over 70 recipes to help you use Apache Spark as your single big data computing platform and master its libraries About This Book This book contains recipes on how to use Apache Spark as a unified compute engine Cover how to connect various source systems to Apache Spark Covers various parts of machine learning including supervised/unsupervised learning & recommendation engines Who This Book Is For This book is for data engineers, data scientists, and those who want to implement Spark for real-time data processing. Anyone who is using Spark (or is planning to) will benefit from this book. The book assumes you have a basic knowledge of Scala as a programming language. What You Will Learn Install and configure Apache Spark with various cluster managers & on AWS Set up a development environment for Apache Spark including Databricks Cloud notebook Find out how to operate on data in Spark with schemas Get to grips with real-time streaming analytics using Spark Streaming & Structured Streaming Master supervised learning and unsupervised learning using MLlib Build a recommendation engine using MLlib Graph processing using GraphX and GraphFrames libraries Develop a set of common applications or project types, and solutions that solve complex big data problems In Detail While Apache Spark 1.x gained a lot of traction and adoption in the early years, Spark 2.x delivers notable improvements in the areas of API, schema awareness, Performance, Structured Streaming, and simplifying building blocks to build better, faster, smarter, and more accessible big data applications. This book uncovers all these features in the form of structured recipes to analyze and mature large and complex sets of data. Starting with installing and configuring Apache Spark with various cluster managers, you will learn to set up development environments. Further on, you will be introduced to working with RDDs, DataFrames and Datasets to operate on schema aware data, and real-time streaming with various sources such as Twitter Stream and Apache Kafka. You will also work through recipes on machine learning, including supervised learning, unsupervised learning & recommendation engines in Spark. Last but not least, the final few chapters delve deeper into the concepts of graph processing using GraphX, securing your implementations, cluster optimization, and troubleshooting. Style and approach This book is packed with intuitive recipes supported with line-by-line explanations to help you understand Spark 2.x's real-time processing capabilities and deploy scalable big data solutions. This is a valuable resource for data scientists and those working on large-scale data projects.

Inspiring, mystical, and often surprising Chassidic tales combine with teachings and favorite Jewish recipes to nourish body and soul. Stories and food have always been central to Jewish life, and in this book, they are uniquely tied together. Thirty-nine Chassidic tales, revolving around food and eating and accompanied by spiritual teachings, delve into the mysteries of the Kabbalah, the joy of the Chassidim, and the power of religious faith and acts of kindness (mitzvot). Sixty-three recipes highlight Kosher cooking and the special foods traditionally prepared for Shabbat and the major Jewish holidays, including such favorites as knishes, latkes, gefilte fish, brisket, kugel, bagels, and challah bread. Many of the recipes are suitable for children to learn to cook.

What if I said I had a secret so profound that it would completely change the way you saw reality? That the mere act of knowing this secret fundamentally alters your reality. In fact, it is so secret that it is impossible to hear it, even if I had to speak it to you aloud. The nature of this secret is such that it is so powerful you actually have to prepare yourself in order to know it. This is no ordinary secret, it so fundamental that it's hidden in a mystery itself to make sure it remains a secret and will continue to remain a secret to all those who are uninitiated. Merely reading about this secret would not be enough to grasp its power and it would remain hidden from the reader. You have to realize it for yourself, not only hear, but know it. In fact, to the unprepared it would seem so ridiculous that the reader would dismiss it as childish.

Are we a microcosm of the emotional, psychological and spiritual dysfunction we see all around us, in our families, in our societies and in the world? In what way are we affected by and do we perpetuate this chaos? Why haven't personal healing paths manifested change on a larger scale? How can we create transformational healing that is inclusive of the entire macrocosm? DEEP Origin explores how fallen natures became imprinted on our hearts, passing through the lineage to reconstitute themselves in each successive generation as dysfunctional emotional human patterns. Early life experiences trigger the creation of psychic wounds in each of us—reminiscent of the original breakdown in the Garden of Eden. These wounds were perceived as unbearable to our child selves and we reacted by creating the personality defenses and masks we live behind. DEEP Origin Healing starts with the premise, "Where there is Divine Energy, there can be Emotional Process." Bringing God and Goddess love into the equation changes everything...

In this practical book, four Cloudera data scientists present a set of self-contained patterns for performing large-scale data analysis with Spark. The authors bring Spark, statistical methods, and real-world data sets together to teach you how to approach analytics problems by example. You'll start with an introduction to Spark and its ecosystem, and then dive into patterns that apply common techniques—classification, collaborative filtering, and anomaly detection among others—to fields such as genomics, security, and finance. If you have an entry-level understanding of machine learning and statistics, and you program in Java, Python, or Scala, you'll find these patterns useful for working on your own data applications. Patterns include: Recommending music and the Audioscrobbler data set Predicting forest cover with decision trees Anomaly detection in network traffic with K-means clustering Understanding Wikipedia with Latent Semantic Analysis Analyzing co-occurrence networks with GraphX Geospatial and temporal data analysis on the New York City Taxi Trips data Estimating financial risk through Monte

Carlo simulation Analyzing genomics data and the BDG project Analyzing neuroimaging data with PySpark and Thunder

Deep Learning is a subset of Machine Learning where data sets with several layers of complexity can be processed. This book teaches you the different techniques using which deep learning solutions can be implemented at scale, on Apache Spark. This will help you gain experience of implementing your deep learning models in many real-world use cases.

Apache Spark is amazing when everything clicks. But if you haven't seen the performance improvements you expected, or still don't feel confident enough to use Spark in production, this practical book is for you. Authors Holden Karau and Rachel Warren demonstrate performance optimizations to help your Spark queries run faster and handle larger data sizes, while using fewer resources. Ideal for software engineers, data engineers, developers, and system administrators working with large-scale data applications, this book describes techniques that can reduce data infrastructure costs and developer hours. Not only will you gain a more comprehensive understanding of Spark, you'll also learn how to make it sing. With this book, you'll explore: How Spark SQL's new interfaces improve performance over SQL's RDD data structure The choice between data joins in Core Spark and Spark SQL Techniques for getting the most out of standard RDD transformations How to work around performance issues in Spark's key/value pair paradigm Writing high-performance Spark code without Scala or the JVM How to test for functionality and performance when applying suggested improvements Using Spark MLlib and Spark ML machine learning libraries Spark's Streaming components and external community packages

The New York Times–bestselling, non-nonsense guide to becoming a better leader through 7 key behaviors, based on a mix of military and corporate training. Leadership is not about job titles—it's about action and behavior. "Sparks" are the doers, thinkers, innovators, and key influencers who are catalysts for personal and organizational change. But these extraordinary individuals aren't defined by the place they hold on an organizational chart—they are defined by their actions, commitment, and will. Leadership experts Angie Morgan, Courtney Lynch, and Sean Lynch show how you can become a Spark by cultivating seven key leadership behaviors. Grounded in the latest research on leadership development, this fresh, accessible road map is packed with real-world stories from inside companies like Facebook, Google, and Boston Scientific, and from the authors' own high-stakes, challenging experiences serving in the U.S. Armed Forces. With SPARK as a blueprint, anyone can become a catalyst for change, and any organization can identify and develop Sparks. "A myth-destroying book that will make you rethink both the theory and practice of leadership."—Daniel H. Pink, #1 New York Times–bestselling author of Drive "If you truly want to become a Spark in your organization and in your life, I urge you to read this book now."—Mike "Coach K" Krzyzewski, head coach, Duke University Men's Basketball "These authors are not only great leadership thinkers, but they have all led people in challenging circumstances…. Trust them to take you to a new level."—Brigadier General Thomas A. Kolditz, U.S. Army (Ret.), director of the Ann and John Doerr Institute for New Leaders at Rice University

Summary The Spark distributed data processing platform provides an easy-to-implement tool for ingesting, streaming, and processing data from any source. In Spark in Action, Second Edition, you'll learn to take advantage of Spark's core features and incredible processing speed, with applications including real-time computation, delayed evaluation, and machine learning. Spark skills are a hot commodity in enterprises worldwide, and with Spark's powerful and flexible Java APIs, you can reap all the benefits without first learning Scala or Hadoop. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology Analyzing enterprise data starts by reading, filtering, and merging files and streams from many sources. The Spark data processing engine handles this varied volume like a champ, delivering speeds 100 times faster than Hadoop systems. Thanks to SQL support, an intuitive interface, and a straightforward multilanguage API, you can use Spark without learning a complex new ecosystem. About the book Spark in Action, Second Edition, teaches you to create end-to-end analytics applications. In this entirely new book, you'll learn from interesting Java-based examples, including a complete data pipeline for processing NASA satellite data. And you'll discover Java, Python, and Scala code samples hosted on GitHub that you can explore and adapt, plus appendixes that give you a cheat sheet for installing tools and understanding Spark-specific terms. What's inside Writing Spark applications in Java Spark application architecture Ingestion through files, databases, streaming, and Elasticsearch Querying distributed datasets with Spark SQL About the reader This book does not assume previous experience with Spark, Scala, or Hadoop. About the author Jean-Georges Perrin is an experienced data and software architect. He is France's first IBM Champion and has been honored for 12 consecutive years. Table of Contents PART 1 - THE THEORY CRIPPLED BY AWESOME EXAMPLES 1 So, what is Spark, anyway? 2 Architecture and flow 3 The majestic role of the dataframe 4 Fundamentally lazy 5 Building a simple app for deployment 6 Deploying your simple app PART 2 - INGESTION 7 Ingestion from files 8 Ingestion from databases 9 Advanced ingestion: finding data sources and building your own 10 Ingestion through structured streaming PART 3 - TRANSFORMING YOUR DATA 11 Working with SQL 12 Transforming your data 13 Transforming entire documents 14 Extending transformations with user-defined functions 15 Aggregating your data PART 4 - GOING FURTHER 16 Cache and checkpoint: Enhancing Spark's performances 17 Exporting data and building full data pipelines 18 Exploring deployment

Master scala's advanced techniques to solve real-world problems in data analysis and gain valuable insights from your data Key Features A beginner's guide for performing data analysis loaded with numerous rich, practical examples Access to popular Scala libraries such as Breeze, Saddle for efficient data manipulation and exploratory analysis Develop applications in Scala for real-time analysis and machine learning in Apache Spark Book Description Efficient business decisions with an accurate sense of business data helps in delivering better performance across products and services. This book helps you to leverage the popular Scala libraries and tools for performing core data analysis tasks with ease. The book begins with a quick overview of the building blocks of a standard data analysis process. You will learn to perform basic tasks like Extraction, Staging, Validation, Cleaning, and Shaping of datasets. You will later deep dive into the data exploration and visualization areas of the data analysis life cycle. You will make use of popular Scala libraries like Saddle, Breeze, Vegas, and PredictionIO for processing your datasets. You will learn statistical methods for deriving meaningful insights from data. You will also learn to create applications for Apache Spark 2.x on complex data analysis, in real-time. You will discover traditional machine learning techniques for doing data analysis. Furthermore, you will also be introduced to neural networks and deep learning from a data analysis standpoint. By the end of this book, you will be capable of handling large sets of structured and unstructured data, perform exploratory analysis, and building efficient Scala applications for discovering and delivering insights What you will learn Techniques to determine the validity and confidence level of data Apply quartiles and n-tiles to datasets to see how data is distributed

into many buckets Create data pipelines that combine multiple data lifecycle steps Use built-in features to gain a deeper understanding of the data Apply Lasso regression analysis method to your data Compare Apache Spark API with traditional Apache Spark data analysis Who this book is for If you are a data scientist or a data analyst who wants to learn how to perform data analysis using Scala, this book is for you. All you need is knowledge of the basic fundamentals of Scala programming.

Learning SparkLightning-Fast Big Data Analysis"O'Reilly Media, Inc."

Learn how to use, deploy, and maintain Apache Spark with this comprehensive guide, written by the creators of the open-source cluster-computing framework. With an emphasis on improvements and new features in Spark 2.0, authors Bill Chambers and Matei Zaharia break down Spark topics into distinct sections, each with unique goals. You'll explore the basic operations and common functions of Spark's structured APIs, as well as Structured Streaming, a new high-level API for building end-to-end streaming applications. Developers and system administrators will learn the fundamentals of monitoring, tuning, and debugging Spark, and explore machine learning techniques and scenarios for employing MLlib, Spark's scalable machine-learning library. Get a gentle overview of big data and Spark Learn about DataFrames, SQL, and Datasets—Spark's core APIs—through worked examples Dive into Spark's low-level APIs, RDDs, and execution of SQL and DataFrames Understand how Spark runs on a cluster Debug, monitor, and tune Spark clusters and applications Learn the power of Structured Streaming, Spark's stream-processing engine Learn how you can apply MLlib to a variety of problems, including classification or recommendation

A solution-based guide to put your deep learning models into production with the power of Apache Spark Key Features Discover practical recipes for distributed deep learning with Apache Spark Learn to use libraries such as Keras and TensorFlow Solve problems in order to train your deep learning models on Apache Spark Book Description With deep learning gaining rapid mainstream adoption in modern-day industries, organizations are looking for ways to unite popular big data tools with highly efficient deep learning libraries. As a result, this will help deep learning models train with higher efficiency and speed. With the help of the Apache Spark Deep Learning Cookbook, you'll work through specific recipes to generate outcomes for deep learning algorithms, without getting bogged down in theory. From setting up Apache Spark for deep learning to implementing types of neural net, this book tackles both common and not so common problems to perform deep learning on a distributed environment. In addition to this, you'll get access to deep learning code within Spark that can be reused to answer similar problems or tweaked to answer slightly different problems. You will also learn how to stream and cluster your data with Spark. Once you have got to grips with the basics, you'll explore how to implement and deploy deep learning models, such as Convolutional Neural Networks (CNN) and Recurrent Neural Networks (RNN) in Spark, using popular libraries such as TensorFlow and Keras. By the end of the book, you'll have the expertise to train and deploy efficient deep learning models on Apache Spark. What you will learn Set up a fully functional Spark environment Understand practical machine learning and deep learning concepts Apply built-in machine learning libraries within Spark Explore libraries that are compatible with TensorFlow and Keras Explore NLP models such as Word2vec and TF-IDF on Spark Organize dataframes for deep learning evaluation Apply testing and training modeling to ensure accuracy Access readily available code that may be reusable Who this book is for If you're looking for a practical and highly useful resource for implementing efficiently distributed deep learning models with Apache Spark, then the Apache Spark Deep Learning Cookbook is for you. Knowledge of the core machine learning concepts and a basic understanding of the Apache Spark framework is required to get the best out of this book. Additionally, some programming knowledge in Python is a plus.

Since time eternal horses have walked beside us, helping to shape our destinies, taking us on journeys of the soul, and offering as a gift their power, mystique, and beauty. While it has taken some time, mental health professionals and educators alike have begun to formally acknowledge the emotional, mental and physical benefits that humans can receive by spending time with horses. In the U.S. alone, there are already more than 900 programs that offer therapeutic or educational programming provided in partnership with horses. Leif Hallberg has extensively researched the field of Equine Facilitated Mental Health and Educational Services, and this book reveals the many ways horses can help humans. Become familiar with: Key definitions Historical information about working with horses in therapeutic and educational settings Ethical considerations Practical applications Learn more about the healing power of horses and their rich history of working together with humans in Walking the Way of the Horse. For additional information about this book, and Leif Hallberg visit www.walkingthewayofthehorse.com

Flex 4 is an open-source tool that allows developers to easily add life to web applications with dynamic user features, colorful transitions, and eye-catching animations. Flex also provides powerful data handling for industrial-strength applications. We think it should be just as much fun to learn Flex as it is to use it. And we know that fun learning gets better results. Hello! Flex 4 demonstrates how to get started without getting bogged down in technical detail or academic edge cases. In this book, User Friendly cartoon characters offer commentary and snide side comments, as the book moves quickly from Hello World into practical techniques. Each one is illustrated with a hands-on example. Along the way, readers will build a unique Flex application that mashes Yahoo Maps with Twitter to keep track of friends. Purchase of the print book comes with an offer of a free PDF, ePub, and Kindle eBook from Manning. Also available is all code from the book.

Discover your unique imprint for work that makes you come alive, fills you with meaning, joy, purpose, and possibility, then spend the rest of your life doing it. We're all born with a certain "imprint" for work that makes us come alive. This is your "Sparketype®," your DNA-level driver of work that lets you know, deep down, you're doing what you're here to do. Work that motivates you, fills you with purpose and, fully-expressed in a healthy way, becomes a main-line to meaning, flow, performance, and joy. Put another way, work that "sparks" you. Drawing upon years of research, experimentation, more than 25-million data-points generated by over half-a-million people, hundreds of deep-dive conversations with luminaries from science to art to industry and wellbeing. Award-winning author, serial wellness-industry founder, and host of the top-ranked Good Life Project®, Jonathan Fields, and his team at Spark Endeavors, developed the Sparketype imprints and methodology that is the basis of this book. SPARKED takes you deep into the world of the Sparketypes, revealing an entirely new depth of insights about what makes you come alive in work life, along with what empties you out and trips you up, so you can avoid those life-drains. You'll discover tons of case studies, stories, and real-world applications, creating a comprehensive guide to help you discover what you are meant to

do and how to get started. This book will help you: Discover, with far more depth, what sparks you, what drains you, where you stumble and come alive, so you can reclaim a sense of direction, control, and purpose; Understand the “real” reasons certain experiences, jobs, and roles leave you empty and know how to make things better, without having to endure big disruptive changes; Learn from real-world, relatable stories, case-studies, and data-driven insights Identify the action steps to begin immediately transforming the way you work and live.

Apache Spark is a fast, scalable, and flexible open source distributed processing engine for big data systems and is one of the most active open source big data projects to date. In just 24 lessons of one hour or less, Sams Teach Yourself Apache Spark in 24 Hours helps you build practical Big Data solutions that leverage Spark’s amazing speed, scalability, simplicity, and versatility. This book’s straightforward, step-by-step approach shows you how to deploy, program, optimize, manage, integrate, and extend Spark–now, and for years to come. You’ll discover how to create powerful solutions encompassing cloud computing, real-time stream processing, machine learning, and more. Every lesson builds on what you’ve already learned, giving you a rock-solid foundation for real-world success. Whether you are a data analyst, data engineer, data scientist, or data steward, learning Spark will help you to advance your career or embark on a new career in the booming area of Big Data. Learn how to • Discover what Apache Spark does and how it fits into the Big Data landscape • Deploy and run Spark locally or in the cloud • Interact with Spark from the shell • Make the most of the Spark Cluster Architecture • Develop Spark applications with Scala and functional Python • Program with the Spark API, including transformations and actions • Apply practical data engineering/analysis approaches designed for Spark • Use Resilient Distributed Datasets (RDDs) for caching, persistence, and output • Optimize Spark solution performance • Use Spark with SQL (via Spark SQL) and with NoSQL (via Cassandra) • Leverage cutting-edge functional programming techniques • Extend Spark with streaming, R, and Sparkling Water • Start building Spark-based machine learning and graph-processing applications • Explore advanced messaging technologies, including Kafka • Preview and prepare for Spark’s next generation of innovations Instructions walk you through common questions, issues, and tasks; Q-and-As, Quizzes, and Exercises build and test your knowledge; "Did You Know?" tips offer insider advice and shortcuts; and "Watch Out!" alerts help you avoid pitfalls. By the time you're finished, you'll be comfortable using Apache Spark to solve a wide spectrum of Big Data problems.

Production-targeted Spark guidance with real-world use cases Spark: Big Data Cluster Computing in Production goes beyond general Spark overviews to provide targeted guidance toward using lightning-fast big-data clustering in production. Written by an expert team well-known in the big data community, this book walks you through the challenges in moving from proof-of-concept or demo Spark applications to live Spark in production. Real use cases provide deep insight into common problems, limitations, challenges, and opportunities, while expert tips and tricks help you get the most out of Spark performance. Coverage includes Spark SQL, Tachyon, Kerberos, ML Lib, YARN, and Mesos, with clear, actionable guidance on resource scheduling, db connectors, streaming, security, and much more. Spark has become the tool of choice for many Big Data problems, with more active contributors than any other Apache Software project. General introductory books abound, but this book is the first to provide deep insight and real-world advice on using Spark in production. Specific guidance, expert tips, and invaluable foresight make this guide an incredibly useful resource for real production settings. Review Spark hardware requirements and estimate cluster size Gain insight from real-world production use cases Tighten security, schedule resources, and fine-tune performance Overcome common problems encountered using Spark in production Spark works with other big data tools including MapReduce and Hadoop, and uses languages you already know like Java, Scala, Python, and R. Lightning speed makes Spark too good to pass up, but understanding limitations and challenges in advance goes a long way toward easing actual production implementation. Spark: Big Data Cluster Computing in Production tells you everything you need to know, with real-world production insight and expert guidance, tips, and tricks.

Data in all domains is getting bigger. How can you work with it efficiently? Recently updated for Spark 1.3, this book introduces Apache Spark, the open source cluster computing system that makes data analytics fast to write and fast to run. With Spark, you can tackle big datasets quickly through simple APIs in Python, Java, and Scala. This edition includes new information on Spark SQL, Spark Streaming, setup, and Maven coordinates. Written by the developers of Spark, this book will have data scientists and engineers up and running in no time. You’ll learn how to express parallel jobs with just a few lines of code, and cover applications from simple batch jobs to stream processing and machine learning. Quickly dive into Spark capabilities such as distributed datasets, in-memory caching, and the interactive shell Leverage Spark’s powerful built-in libraries, including Spark SQL, Spark Streaming, and MLlib Use one programming paradigm instead of mixing and matching tools like Hive, Hadoop, Mahout, and Storm Learn how to deploy interactive, batch, and streaming applications Connect to data sources including HDFS, Hive, JSON, and S3 Master advanced topics like data partitioning and shared variables Speed up the design and implementation of deep learning solutions using Apache Spark Key Features Explore the world of distributed deep learning with Apache Spark Train neural networks with deep learning libraries such as BigDL and TensorFlow Develop Spark deep learning applications to intelligently handle large and complex datasets Book Description Deep learning is a subset of machine learning where datasets with several layers of complexity can be processed. Hands-On Deep Learning with Apache Spark addresses the sheer complexity of technical and analytical parts and the speed at which deep learning solutions can be implemented on Apache Spark. The book starts with the fundamentals of Apache Spark and deep learning. You will set up Spark for deep learning, learn principles of distributed modeling, and understand different types of neural nets. You will then implement deep learning models, such as convolutional neural networks (CNNs), recurrent neural networks (RNNs), and long short-term memory (LSTM) on Spark.

As you progress through the book, you will gain hands-on experience of what it takes to understand the complex datasets you are dealing with. During the course of this book, you will use popular deep learning frameworks, such as TensorFlow, Deeplearning4j, and Keras to train your distributed models. By the end of this book, you'll have gained experience with the implementation of your models on a variety of use cases. What you will learn Understand the basics of deep learning Set up Apache Spark for deep learning Understand the principles of distribution modeling and different types of neural networks Obtain an understanding of deep learning algorithms Discover textual analysis and deep learning with Spark Use popular deep learning frameworks, such as Deeplearning4j, TensorFlow, and Keras Explore popular deep learning algorithms Who this book is for If you are a Scala developer, data scientist, or data analyst who wants to learn how to use Spark for implementing efficient deep learning models, Hands-On Deep Learning with Apache Spark is for you. Knowledge of the core machine learning concepts and some exposure to Spark will be helpful.

NOx Emission Control Technologies in Stationary and Automotive Internal Combustion Engines: Approaches Toward NOx Free Automobiles presents the fundamental theory of emission formation, particularly the oxides of nitrogen (NOx) and its chemical reactions and control techniques. The book provides a simplified framework for technical literature on NOx reduction strategies in IC engines, highlighting thermodynamics, combustion science, automotive emissions and environmental pollution control. Sections cover the toxicity and roots of emissions for both SI and CI engines and the formation of various emissions such as CO, SO2, HC, NOx, soot, and PM from internal combustion engines, along with various methods of NOx formation. Topics cover the combustion process, engine design parameters, and the application of exhaust gas recirculation for NOx reduction, making this book ideal for researchers and students in automotive, mechanical, mechatronics and chemical engineering students working in the field of emission control techniques. Covers advanced and recent technologies and emerging new trends in NOx reduction for emission control Highlights the effects of exhaust gas recirculation (EGR) on engine performance parameters Discusses emission norms such as EURO VI and Bharat stage VI in reducing global air pollution due to engine emissions