Python 5702 Installation Manual

Natural HazardsMastering matplotlibBioinformatics in AquacultureComputer-aided TechnologiesSiren StatusHistorical AcousticsFuzzy LogicCamel in ActionMedical and Biological Image AnalysisMATLABTelematics and ComputingIntelligent Projects Using PythonFace RecognitionBioinformaticsA manual of the historical development of artAdvances in Security in Computing and CommunicationsIntroduction to Data ScienceFractal AnalysisGlobalSoilMapProgramming Skills for Data ScienceStatistical Inference via Data Science: A ModernDive into R and the TidyversePhosphoric Acid IndustryFreshwater and Marine AquariumSoil Organic Carbon Mapping CookbookPositron Emission TomographySerious PythonHandbook of Writing for the Mathematical Sciences, Third EditionManagement of Hazardous WastesForthcoming BooksMarine MetagenomicsSecuring the Virtual Environment, Included DVDBioinformatics in the Era of Post Genomics and Big DataLearning RabbitMQPopular ScienceMetabolomicsGeocomputation with RProtein Function PredictionSpace FlightBacterial PangenomicsUnderstanding Cryptography

Natural Hazards

Mastering matplotlib

This book addresses different aspects of natural hazards and vulnerabilities, with a focus on prevention and protection. It consists of nine chapters, five on flood events addressing vulnerabilities, risk assessments, impacts, sensitivity analyses, and mitigation measures, two on climate change and reconstruction of natural hazard events such as avalanches and rockslides, and two on tsunamis and volcanoes. All chapters provide relevant information and useful elements for readers interested and concerned about the lack of action or its ineffectiveness in containing the vulnerabilities and risks of possible natural hazards worldwide.

Bioinformatics in Aquaculture

An interdisciplinary bioinformatics science aims to develop methodology and analysis tools to explore large-volume of biological data using conventional and modern computer science, statistics, and mathematics, as well as pattern recognition, reconstruction, machine learning, simulation and iterative approaches, molecular modeling, folding, networking, and artificial intelligence. Written by international team of life scientists, this Bioinformatics book provides some updates on bioinformatics methods, resources, approaches, and genome analysis tools useful for molecular sciences, medicine and drug designs, as well as plant sciences and agriculture. I trust chapters of this book should provide advanced knowledge for university students, life science researchers, and interested readers on some latest developments in the bioinformatics field.

Computer-aided Technologies

Bioinformatics has evolved significantly in the era of post genomics and big data. Huge advancements were made toward storing, handling, mining, comparing, extracting, clustering and analysis as well as visualization of big macromolecular data using novel computational approaches, machine and deep learning methods, and web-based server tools. There are extensively ongoing world-wide efforts to build the resources for regional hosting, organized and structured access and improving the pre-existing bioinformatics tools to efficiently and meaningfully analyze day-to-day increasing big data. This book intends to provide the reader with updates and progress on genomic data analysis, data modeling and network-based system tools.

Siren Status

Cryptography is now ubiquitous – moving beyond the traditional environments, such as government communications and banking systems, we see cryptographic techniques realized in Web browsers, e-mail programs, cell phones, manufacturing systems, embedded software, smart buildings, cars, and even medical implants. Today's designers need a comprehensive understanding of applied cryptography. After an introduction to cryptography and data security, the authors explain the main techniques in modern cryptography, with chapters addressing stream ciphers, the Data Encryption Standard (DES) and 3DES, the Advanced Encryption

Standard (AES), block ciphers, the RSA cryptosystem, public-key cryptosystems based on the discrete logarithm problem, elliptic-curve cryptography (ECC), digital signatures, hash functions, Message Authentication Codes (MACs), and methods for key establishment, including certificates and public-key infrastructure (PKI). Throughout the book, the authors focus on communicating the essentials and keeping the mathematics to a minimum, and they move quickly from explaining the foundations to describing practical implementations, including recent topics such as lightweight ciphers for RFIDs and mobile devices, and current key-length recommendations. The authors have considerable experience teaching applied cryptography to engineering and computer science students and to professionals, and they make extensive use of examples, problems, and chapter reviews, while the book's website offers slides, projects and links to further resources. This is a suitable textbook for graduate and advanced undergraduate courses and also for self-study by engineers.

Historical Acoustics

Introduction to Data Science: Data Analysis and Prediction Algorithms with R introduces concepts and skills that can help you tackle real-world data analysis challenges. It covers concepts from probability, statistical inference, linear regression, and machine learning. It also helps you develop skills such as R programming, data wrangling, data visualization, predictive algorithm building, file organization with

UNIX/Linux shell, version control with Git and GitHub, and reproducible document preparation. This book is a textbook for a first course in data science. No previous knowledge of R is necessary, although some experience with programming may be helpful. The book is divided into six parts: R, data visualization, statistics with R, data wrangling, machine learning, and productivity tools. Each part has several chapters meant to be presented as one lecture. The author uses motivating case studies that realistically mimic a data scientist's experience. He starts by asking specific questions and answers these through data analysis so concepts are learned as a means to answering the questions. Examples of the case studies included are: US murder rates by state, self-reported student heights, trends in world health and economics, the impact of vaccines on infectious disease rates, the financial crisis of 2007-2008, election forecasting, building a baseball team, image processing of hand-written digits, and movie recommendation systems. The statistical concepts used to answer the case study questions are only briefly introduced, so complementing with a probability and statistics textbook is highly recommended for in-depth understanding of these concepts. If you read and understand the chapters and complete the exercises, you will be prepared to learn the more advanced concepts and skills needed to become an expert.

Fuzzy Logic

Geocomputation with R is for people who want to

analyze, visualize and model geographic data with open source software. It is based on R, a statistical programming language that has powerful data processing, visualization, and geospatial capabilities. The book equips you with the knowledge and skills to tackle a wide range of issues manifested in geographic data, including those with scientific, societal, and environmental implications. This book will interest people from many backgrounds, especially Geographic Information Systems (GIS) users interested in applying their domain-specific knowledge in a powerful open source language for data science, and R users interested in extending their skills to handle spatial data. The book is divided into three parts: (I) Foundations, aimed at getting you up-to-speed with geographic data in R, (II) extensions, which covers advanced techniques, and (III) applications to real-world problems. The chapters cover progressively more advanced topics, with early chapters providing strong foundations on which the later chapters build. Part I describes the nature of spatial datasets in R and methods for manipulating them. It also covers geographic data import/export and transforming coordinate reference systems. Part II represents methods that build on these foundations. It covers advanced map making (including web mapping), "bridges" to GIS, sharing reproducible code, and how to do cross-validation in the presence of spatial autocorrelation. Part III applies the knowledge gained to tackle real-world problems, including representing and modeling transport systems, finding optimal locations for stores or services, and ecological modeling. Exercises at the end of each chapter give you the skills needed to

tackle a range of geospatial problems. Solutions for each chapter and supplementary materials providing extended examples are available at https://geocompr.github.io/geocompkg/articles/. Dr. Robin Lovelace is a University Academic Fellow at the University of Leeds, where he has taught R for geographic research over many years, with a focus on transport systems. Dr. Jakub Nowosad is an Assistant Professor in the Department of Geoinformation at the Adam Mickiewicz University in Poznan, where his focus is on the analysis of large datasets to understand environmental processes. Dr. Jannes Muenchow is a Postdoctoral Researcher in the GIScience Department at the University of Jena, where he develops and teaches a range of geographic methods, with a focus on ecological modeling, statistical geocomputing, and predictive mapping. All three are active developers and work on a number of R packages, including stplanr, sabre, and RQGIS.

Camel in Action

A step-by-step guide to identifying and defending against attacks on the virtual environment As more and more data is moved into virtual environments the need to secure them becomes increasingly important. Useful for service providers as well as enterprise and small business IT professionals the book offers a broad look across virtualization used in various industries as well as a narrow view of vulnerabilities unique to virtual environments. A companion DVD is included with recipes and testing scripts. Examines the difference in a virtual model versus traditional

computing models and the appropriate technology and procedures to defend it from attack Dissects and exposes attacks targeted at the virtual environment and the steps necessary for defense Covers information security in virtual environments: building a virtual attack lab, finding leaks, getting a side-channel, denying or compromising services, abusing the hypervisor, forcing an interception, and spreading infestations Accompanying DVD includes hands-on examples and code This how-to guide arms IT managers, vendors, and architects of virtual environments with the tools they need to protect against common threats.

Medical and Biological Image Analysis

Metabolomics: Fundamentals and Applications authoritatively presents the basic principles and applications of metabolomics. Topics covered in this book range from the analysis of metabolites from different biological sources and their data processing and statistical analysis. This book serves as a basic guide for a wide range of audiences from less familiar with metabolomics techniques to more experienced researchers seeking to understand complex biological systems from the systems biology approach.

MATLAB

This book is a collection of chapters, concerning the developments within the Fuzzy Logic field of study. The book includes scholarly contributions by various authors pertinent to Fuzzy Logic. Each contribution

comes as a separate chapter complete in itself but directly related to the books topics and objectives. The target audience comprises scholars and specialists in the field.

Telematics and Computing

Build and optimize efficient messaging applications with ease About This Book Learn to administer, configure, and manage RabbitMQ instances Discover ways to secure and troubleshoot RabbitMQ instances This book is fully up-to-date with all the latest changes to version 3.5 Who This Book Is For If you are a developer or system administrator with a basic knowledge of messaging who wants to learn RabbitMQ, or if you want to further enhance your knowledge in working with the message broker, then this book is ideal for you. To fully understand some examples in the book, a basic knowledge of the Java programming language is required. What You Will Learn Apply messaging patterns using the message broker Administer RabbitMQ using the command line, management Web console, or management REST services Create a cluster of scalable, and highly-available, RabbitMQ instances Use RabbitMQ with the Spring Framework, MuleESB, WSO2, and Oracle databases Deploy RabbitMQ using Puppet, Vagrant, or Docker Fine-tune the performance of RabbitMQ Monitor RabbitMQ using Nagios, Munin, or Monit Secure, troubleshoot, and extend RabbitMQ In Detail RabbitMQ is Open Source Message Queuing software based on the Advanced Message Queue Protocol Standard written in the Erlang Language. RabbitMQ is

an ideal candidate for large-scale projects ranging from e-commerce and finance to Big Data and social networking because of its ease of use and high performance. Managing RabbitMQ in such a dynamic environment can be a challenging task that requires a good understanding not only of how to work properly with the message broker but also of its best practices and pitfalls. Learning RabbitMQ starts with a concise description of messaging solutions and patterns, then moves on to concrete practical scenarios for publishing and subscribing to the broker along with basic administration. This knowledge is further expanded by exploring how to establish clustering and high availability at the level of the message broker and how to integrate RabbitMQ with a number of technologies such as Spring, and enterprise service bus solutions such as MuleESB and WSO2. We will look at advanced topics such as performance tuning, secure messaging, and the internals of RabbitMQ. Finally we will work through case-studies so that we can see RabbitMQ in action and, if something goes wrong, we'll learn to resolve it in the Troubleshooting section. Style and approach Each chapter of the book is an easy-to-follow guide that expands and builds on the knowledge already gained in previous chapters. Throughout the course of the book, a sample system called the CSN (Corporate Social Network) is used to illustrate the core principles described. At the end of each chapter, there is a Q&A session that covers practical questions that may arise in practice when working with RabbitMQ.

Intelligent Projects Using Python

Phosphoric acid is an important industrial acid that is utilized for manufacturing phosphatic fertilizers and industrial products, for pickling and posterior treatment of steel surfaces to prevent corrosion, for ensuring appropriate paint adhesion, and for the food and beverages industry, e.g., cola-type drinks to impart taste and slight acidity and to avoid iron sedimentation. This industry is spread out in countries of four continents - Asia, Africa, America, and Europe - which operate mines and production plants and produce fertilizers. Phosacid is one of the most widely known acids. The global phosacid market and its many phosphate derivatives are expanding worldwide; this trend is expected to continue in the next years, thus producing innovative products.

Face Recognition

GlobalSoilMap: Basis of the global spatial soil information system contains contributions that were presented at the 1st GlobalSoilMap conference, held 7-9 October 2013 in Orléans, France. These contributions demonstrate the latest developments in the GlobalSoilMap project and digital soil mapping technology for which the ultimate aim is to produce a high resolution digital spatial soil information system of selected soil properties and their uncertainties for the entire world. GlobalSoilMap: Basis of the global spatial soil information system aims to stimulate capacity building and new incentives to develop full GlobalSoilMap products in all parts of the world.

Bioinformatics

Rapid trend of industry and high technological progress are the main sources of the accumulation of hazardous wastes. Recently, nuclear applications have been rapidly developed, and several nuclear power plants have been started to work throughout the world. The potential impact of released hazardous contaminants into the environment has received growing attention due to its serious problems to the biological systems. The book Management of Hazardous Wastes contains eight chapters covering two main topics of hazardous waste management and microbial bioremediation. This book will be useful to many scientists, researchers, and students in the scope of development in waste management program including sources of hazardous waste, government policies on waste generation, and treatment with particular emphasis on bioremediation technology.

A manual of the historical development of art

This book constitutes the thoroughly refereed proceedings of the 8th International Congress on Telematics and Computing, WITCOM 2019, held in Merida, Mexico, in November 2019. The 31 full papers presented in this volume were carefully reviewed and selected from 78 submissions. The papers are organized in topical sections: GIS & climate change; telematics & electronics; artificial intelligence & machine learning; software engineering & education; internet of things; and informatics security.

Advances in Security in Computing and

Communications

This volume presents established bioinformatics tools and databases for function prediction of proteins. Reflecting the diversity of this active field in bioinformatics, the chapters in this book discuss a variety of tools and resources such as sequence-, structure-, systems-, and interaction-based function prediction methods, tools for functional analysis of metagenomics data, detecting moonlighting-proteins, sub-cellular localization prediction, and pathway and comparative genomics databases. Written in the highly successful Methods in Molecular Biology series format, chapters include introductions to their respective topics, step-by-step instructions of how to use software and web resources, use cases, and tips on troubleshooting and avoiding known pitfalls. Thorough and cutting-edge, Protein Function Prediction: Methods and Protocols is a valuable and practical guide for using bioinformatics tools for investigating protein function

Introduction to Data Science

Fractal Analysis

MATLAB is an indispensable asset for scientists, researchers, and engineers. The richness of the MATLAB computational environment combined with an integrated development environment (IDE) and straightforward interface, toolkits, and simulation and modeling capabilities, creates a research and

development tool that has no equal. From quick code prototyping to full blown deployable applications, MATLAB stands as a de facto development language and environment serving the technical needs of a wide range of users. As a collection of diverse applications, each book chapter presents a novel application and use of MATLAB for a specific result.

GlobalSoilMap

Programming Skills for Data Science

In the era of Internet of Things (IoT) and with the explosive worldwide growth of electronic data volume, and associated need of processing, analysis, and storage of such humongous volume of data, several new challenges are faced in protecting privacy of sensitive data and securing systems by designing novel schemes for secure authentication, integrity protection, encryption, and non-repudiation. Lightweight symmetric key cryptography and adaptive network security algorithms are in demand for mitigating these challenges. This book presents some of the state-of-the-art research work in the field of cryptography and security in computing and communications. It is a valuable source of knowledge for researchers, engineers, practitioners, graduates, and doctoral students who are working in the field of cryptography, network security, and security and privacy issues in the Internet of Things (IoT). It will also be useful for faculty members of graduate schools and universities.

Statistical Inference via Data Science: A ModernDive into R and the Tidyverse

Statistical Inference via Data Science: A ModernDive into R and the Tidyverse provides a pathway for learning about statistical inference using data science tools widely used in industry, academia, and government. It introduces the tidyverse suite of R packages, including the ggplot2 package for data visualization, and the dplyr package for data wrangling. After equipping readers with just enough of these data science tools to perform effective exploratory data analyses, the book covers traditional introductory statistics topics like confidence intervals, hypothesis testing, and multiple regression modeling, while focusing on visualization throughout. Features: ● Assumes minimal prerequisites, notably, no prior calculus nor coding experience ● Motivates theory using real-world data, including all domestic flights leaving New York City in 2013, the Gapminder project, and the data journalism website, FiveThirtyEight.com ● Centers on simulation-based approaches to statistical inference rather than mathematical formulas ● Uses the infer package for "tidy" and transparent statistical inference to construct confidence intervals and conduct hypothesis tests via the bootstrap and permutation methods ● Provides all code and output embedded directly in the text; also available in the online version at moderndive.com This book is intended for individuals who would like to simultaneously start developing their data science toolbox and start learning about the inferential and modeling tools used in much of

modern-day research. The book can be used in methods and data science courses and first courses in statistics, at both the undergraduate and graduate levels.

Phosphoric Acid Industry

Pattern recognition has gained significant attention due to the rapid explosion of internet- and mobile-based applications. Among the various pattern recognition applications, face recognition is always being the center of attraction. With so much of unlabeled face images being captured and made available on internet (particularly on social media), conventional supervised means of classifying face images become challenging. This clearly warrants for semi-supervised classification and subspace projection. Another important concern in face recognition system is the proper and stringent evaluation of its capability. This book is edited keeping all these factors in mind. This book is composed of five chapters covering introduction, overview, semi-supervised classification, subspace projection, and evaluation techniques.

Freshwater and Marine Aquarium

Bioinformatics derives knowledge from computer analysis of biological data. In particular, genomic and transcriptomic datasets are processed, analysed and, whenever possible, associated with experimental results from various sources, to draw structural, organizational, and functional information relevant to

biology. Research in bioinformatics includes method development for storage, retrieval, and analysis of the data. Bioinformatics in Aquaculture provides the most up to date reviews of next generation sequencing technologies, their applications in aquaculture, and principles and methodologies for the analysis of genomic and transcriptomic large datasets using bioinformatic methods, algorithm, and databases. The book is unique in providing guidance for the best software packages suitable for various analysis, providing detailed examples of using bioinformatic software and command lines in the context of real world experiments. This book is a vital tool for all those working in genomics, molecular biology, biochemistry and genetics related to aquaculture, and computational and biological sciences.

Soil Organic Carbon Mapping Cookbook

Implement machine learning and deep learning methodologies to build smart, cognitive AI projects using Python Key Features A go-to guide to help you master AI algorithms and concepts 8 real-world projects tackling different challenges in healthcare, e-commerce, and surveillance Use TensorFlow, Keras, and other Python libraries to implement smart AI applications Book Description This book will be a perfect companion if you want to build insightful projects from leading AI domains using Python. The book covers detailed implementation of projects from all the core disciplines of AI. We start by covering the basics of how to create smart systems using machine learning and deep learning techniques. You will

assimilate various neural network architectures such as CNN, RNN, LSTM, to solve critical new world challenges. You will learn to train a model to detect diabetic retinopathy conditions in the human eye and create an intelligent system for performing a video-to-text translation. You will use the transfer learning technique in the healthcare domain and implement style transfer using GANs. Later you will learn to build AI-based recommendation systems, a mobile app for sentiment analysis and a powerful chatbot for carrying customer services. You will implement AI techniques in the cybersecurity domain to generate Captchas. Later you will train and build autonomous vehicles to self-drive using reinforcement learning. You will be using libraries from the Python ecosystem such as TensorFlow, Keras and more to bring the core aspects of machine learning, deep learning, and AI. By the end of this book, you will be skilled to build your own smart models for tackling any kind of AI problems without any hassle. What you will learn Build an intelligent machine translation system using seq-2-seq neural translation machines Create AI applications using GAN and deploy smart mobile apps using TensorFlow Translate videos into text using CNN and RNN Implement smart AI Chatbots, and integrate and extend them in several domains Create smart reinforcement, learning-based applications using Q-Learning Break and generate CAPTCHA using Deep Learning and Adversarial Learning Who this book is for This book is intended for data scientists, machine learning professionals, and deep learning practitioners who are ready to extend their knowledge and potential in AI. If you want to build real-life smart systems to play a crucial role in every complex

domain, then this book is what you need. Knowledge of Python programming and a familiarity with basic machine learning and deep learning concepts are expected to help you get the most out of the book

Positron Emission Tomography

Handbook of Writing for the Mathematical Sciences provides advice on all aspects of scientific writing, with a particular focus on writing mathematics. Its readable style and handy format, coupled with an extensive bibliography and comprehensive index, make it useful for everyone from undergraduates to seasoned professionals. This third edition revises, updates, and expands the best-selling second edition to reflect modern writing and publishing practices and builds on the author's extensive experience in writing and speaking about mathematics. Some of its key features include coverage of fundamentals of writing, including English usage, revising a draft, and writing when your first language is not English; thorough treatment of mathematical writing, including how to choose notation, how to choose between words and symbols, and how to format equations; and many tips for exploiting LaTeX and BibTeX. Higham also provides advice on how to write and publish a paper, covering the entire publication process, and includes anecdotes, quotes, and unusual facts that enliven the presentation. The new edition has been reorganized to make the book easier to use for reference; treats modern developments in publishing such as open access, DOIs, and ORCID; and contains more on poster design, including e-posters and the poster

blitz. The new edition also includes five new chapters on the following topics: · workflow covering text editors, markup languages, version control, and much more; · the principles of indexing and how to prepare an index in LaTeX; · reviewing a paper, book proposal, or book; · writing a book, including advice on choosing a publisher and LaTeX tips particular to books; and · writing a blog post.

Serious Python

Positron Emission Tomography is a nuclear medicine technique first used to study the brain. Several decades ago, PET scanners design and performance have improved considerably: number of detectors has increased from 20 to 20,0000, axial field of view from 2 to 20 cm, spatial resolution has improved from 25 to 5 mm, sensitivity has increased of about 1000 fold. At the same time, clinical applications have grown dramatically. In the first section of this book the authors review some of developments in PET instrumentation, with emphasis on data acquisition, processing and image formation. In the second section authors expose examples of applications in human research. In the last section authors describe applications in assessment and prediction of oncological treatment response.

Handbook of Writing for the Mathematical Sciences, Third Edition

Management of Hazardous Wastes

The aim of this book is to show some applications of fractal analysis in the fields of sciences. The first chapter introduces the readers to the book, while the second chapter shows the methods and challenges of fractal analysis of time-series data sets. The third chapter demonstrates fractal geometry as an attractive choice for miniaturized planar microwave filter design. The fourth chapter presents fractal antennas for wearable applications. The objective of the fifth chapter is to show some Parrondian games in discrete dynamic systems, while the last chapter reveals fractal structures of carbon nanotube system arrays.

Forthcoming Books

The aim of this book is to present the latest applications, trends, and developments of computer-aided technologies (CAx). Computer-aided technologies are the core of product lifecycle management (PLM) and human lifecycle management (HUM). This book has seven chapters, organized in two sections: "Computer-Aided Technologies in Engineering" and "Computer-Aided Technologies in Medicine." The first section treats the different aspects of PLM, including design, simulations and analysis, manufacturing, production planning, and quality assurance. In the second part of the book are presented CAx applications in medicine focused on clinical decision, diagnosis, and biosensor design. CAx plays a key role in a variety of engineering and medical applications, bringing a lot of benefits in product life cycle, extending and improving human

life.

Marine Metagenomics

This book deals with medical image analysis methods. In particular, it contains two significant chapters on image segmentation as well as some selected examples of the application of image analysis and processing methods. Despite the significant development of information technology methods used in modern image analysis and processing algorithms, the segmentation process remains open. This is mainly due to intra-patient variability and/or scene diversity. Segmentation is equally difficult in the case of ultrasound imaging and depends on the location of the probe or the contact force. Regardless of the imaging method, segmentation must be tailored for a specific application in almost every case. These types of application areas for various imaging methods are included in this book.

Securing the Virtual Environment, Included DVD

Cleo's natural singing voice isn't the best… in fact, it's awful! But when the Full Moon appears, Cleo entrances Lewis, Byron, Zane and the other boys in the neighbourhood with her beautiful singing. In the midst of her new-found siren status, Cleo shares a special moment with Lewis. But when the moon sets, will they remember their kiss in the light of day?

Bioinformatics in the Era of Post

Genomics and Big Data

An indispensable collection of practical tips and real-world advice for tackling common Python problems and taking your code to the next level. Features interviews with high-profile Python developers who share their tips, tricks, best practices, and real-world advice gleaned from years of experience. Sharpen your Python skills as you dive deep into the Python programming language with Serious Python. You'll cover a range of advanced topics like multithreading and memorization, get advice from experts on things like designing APIs and dealing with databases, and learn Python internals to help you gain a deeper understanding of the language itself. Written for developers and experienced programmers, Serious Python brings together over 15 years of Python experience to teach you how to avoid common mistakes, write code more efficiently, and build better programs in less time. As you make your way through the book's extensive tutorials, you'll learn how to start a project and tackle topics like versioning, layouts, coding style, and automated checks. You'll learn how to package your software for distribution, optimize performance, use the right data structures, define functions efficiently, pick the right libraries, build future-proof programs, and optimize your programs down to the bytecode. You'll also learn how to: - Make and use effective decorators and methods, including abstract, static, and class methods - Employ Python for functional programming using generators, pure functions, and functional functions - Extend flake8 to work with the abstract syntax tree (AST) to introduce

more sophisticated automatic checks into your programs - Apply dynamic performance analysis to identify bottlenecks in your code - Work with relational databases and effectively manage and stream data with PostgreSQL If you've been looking for a way to take your Python skills from good to great, Serious Python will help you get there. Learn from the experts and get seriously good at Python with Serious Python!

Learning RabbitMQ

Space has always been intriguing people's imagination. However, space flight has only been feasible over the last 60 years. The collective effort of distinguished international researchers, within the field of space flight, has been incorporated into this book suitable to the broader audience. The book has been edited by Prof. George Dekoulis, Aerospace Engineering Institute (AEI), Cyprus, an expert on the state-of-the-art implementations of reconfigurable space physics systems. The book consists of six sections, namely, "Introduction," "Spacecraft Simulators," "Spacecraft Navigation," "Spacecraft Propulsion," "Suborbital Flight," and "Deep-Space Flight." We hope that this book will be beneficial for professionals, researchers, and academicians and inspires the younger generations into pursuing relevant academic studies and professional careers within the space industry.

Popular Science

Metabolomics

The Soil Organic Carbon Mapping cookbook provides a step-by-step guidance for developing 1 km grids for soil carbon stocks. It includes the preparation of local soil data, the compilation and pre-processing of ancillary spatial data sets, upscaling methodologies, and uncertainty assessments. Guidance is mainly specific to soil carbon data, but also contains many generic sections on soil grid development, as it is relevant for other soil properties. This second edition of the cookbook provides generic methodologies and technical steps to produce SOC maps and has been updated with knowledge and practical experiences gained during the implementation process of GSOCmap V1.0 throughout 2017. Guidance is mainly specific to SOC data, but as this cookbook contains generic sections on soil grid development it can be applicable to map various soil properties.

Geocomputation with R

The Foundational Hands-On Skills You Need to Dive into Data Science "Freeman and Ross have created the definitive resource for new and aspiring data scientists to learn foundational programming skills." –From the foreword by Jared Lander, series editor Using data science techniques, you can transform raw data into actionable insights for domains ranging from urban planning to precision medicine. Programming Skills for Data Science brings together all the foundational skills you need to get started, even if you have no programming or data science

experience. Leading instructors Michael Freeman and Joel Ross guide you through installing and configuring the tools you need to solve professional-level data science problems, including the widely used R language and Git version-control system. They explain how to wrangle your data into a form where it can be easily used, analyzed, and visualized so others can see the patterns you've uncovered. Step by step, you'll master powerful R programming techniques and troubleshooting skills for probing data in new ways, and at larger scales. Freeman and Ross teach through practical examples and exercises that can be combined into complete data science projects. Everything's focused on real-world application, so you can quickly start analyzing your own data and getting answers you can act upon. Learn to Install your complete data science environment, including R and RStudio Manage projects efficiently, from version tracking to documentation Host, manage, and collaborate on data science projects with GitHub Master R language fundamentals: syntax, programming concepts, and data structures Load, format, explore, and restructure data for successful analysis Interact with databases and web APIs Master key principles for visualizing data accurately and intuitively Produce engaging, interactive visualizations with ggplot and other R packages Transform analyses into sharable documents and sites with R Markdown Create interactive web data science applications with Shiny Collaborate smoothly as part of a data science team Register your book for convenient access to downloads, updates, and/or corrections as they become available. See inside book for details.

Protein Function Prediction

"Camel in Action" is for developers working with integration of any kind. This highly practical book introduces Camel and shows examples of how to use it with the more than 45 supported enterprise integration patterns.

Space Flight

This book is a collection of contributions to the Special Issue "Historical Acoustics: Relationships between People and Sound over Time". The research presented here aims to explore the origins of acoustics and examine the relationships that have evolved over the centuries between people and auditory phenomena. Sounds have indeed accompanied human civilizations since the beginning of time, helping them to make sense of the world and to shape their cultures. Several key topics emerged, such as the acoustics of historical worship buildings, the acoustics of sites of archaeological interest, the acoustics of historical opera houses, and the topic of soundscapes as cultural intangible heritage. The book, as a whole, reflects the vibrant research activity around the "acoustics of the past", which will hopefully be serve as a foundation for inspiring the future path of this discipline.

Bacterial Pangenomics

This book presents the state-of-art marine metagenome research and explains the method of

marine metagenomic analysis in an easy-to-understand manner. Changes in the marine environment due to global warming and pollution have become a major global problem. Maintaining a healthy marine ecosystem requires advanced environmental monitoring and assessment systems. As such, the book presents a novel metagenomic monitoring method, which has been developed for comprehensive analyses of the DNA of microorganisms living in seawater to further our understanding of the dynamics of the marine environment. The book can be used as a primer for new researchers and as a manual on experimental methods.

Understanding Cryptography

matplotlib is a Python plotting library that provides a large feature set for a multitude of platforms. Given the depth of the library's legacy and the variety of related open source projects, gaining expert knowledge can be a time-consuming and often confusing process. You'll begin your exciting journey learning about the skills that are necessary in leading technical teams for a visualization project or to become a matplotlib contributor. Supported by highly-detailed IPython Notebooks, this book takes you through the conceptual components underlying the library and then provides a detailed overview of its APIs. From there, you will learn about event handling and how to code for interactive plots. Next you will move on to customization techniques, local configuration of matplotib, and then deployments in

Cloud environments. The adventure culminates in an exploration of big data visualization and matplotlib clustering.

ROMANCE ACTION & ADVENTURE MYSTERY & THRILLER BIOGRAPHIES & HISTORY CHILDREN'S YOUNG ADULT FANTASY HISTORICAL FICTION HORROR LITERARY FICTION NON-FICTION SCIENCE FICTION