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Modern Python Cookbook Python Recipes Handbook Python Cookbook Modern Python Cookbook Python Recipes Modern Python Standard Library Cookbook Python Automation Cookbook Python Recipes for Earth Sciences Python Digital Forensics Cookbook Python Recipes for Engineers and Scientists Python机器学习手册 Python Feature Engineering Cookbook Pandas 1.x Cookbook Python Cookbook, 2/E (Covers Python 2.3 & 2.4) Secret Recipes of the Python Ninja Python Cookbook scikit-learn Cookbook Python Text Processing with NLTK 2.0 Cookbook Python for Finance Cookbook Python Cookbook The Python Audio Cookbook Python Natural Language Processing Cookbook MicroPython Cookbook wxPython Recipes PySpark Cookbook Time Series Analysis with Python Cookbook Matplotlib 3.0 Cookbook Pandas Cookbook Deep Learning for Time Series Cookbook Getting Started in Machine Learning SciPy Recipes Raspberry Pi 3 Cookbook for Python Programmers Raspberry Pi for Python Programmers Cookbook - Second Edition Python Parallel Programming Cookbook Artificial Intelligence with Python Cookbook Python Deep Learning Cookbook Machine Learning with Python Cookbook 21 Recipes for Mining Twitter Python Programming Recipes for IoT Applications Python Image Processing Cookbook

Modern Python Cookbook *2016-11-30*

the latest in modern python recipes for the busy modern programmer about this book develop
succinct expressive programs in python learn the best practices and common idioms through
carefully explained and structured recipes discover new ways to apply python for the new age of
development who this book is for the book is for web developers programmers enterprise programmers
engineers big data scientist and so on if you are a beginner python cookbook will get you started
if you are experienced it will expand your knowledge base a basic knowledge of programming would
help what you will learn see the intricate details of the python syntax and how to use it to your
advantage improve your code readability through functions in python manipulate data effectively
using built in data structures get acquainted with advanced programming techniques in python equip
yourself with functional and statistical programming features write proper tests to be sure a
program works as advertised integrate application software using python in detail python is the
preferred choice of developers engineers data scientists and hobbyists everywhere it is a great
scripting language that can power your applications and provide great speed safety and scalability
by exposing python as a series of simple recipes you can gain insight into specific language
features in a particular context having a tangible context helps make the language or standard
library feature easier to understand this book comes with over 100 recipes on the latest version
of python the recipes will benefit everyone ranging from beginner to an expert the book is broken
down into 13 chapters that build from simple language concepts to more complex applications of the
language the recipes will touch upon all the necessary python concepts related to data structures
oop functional programming as well as statistical programming you will get acquainted with the
nuances of python syntax and how to effectively use the advantages that it offers you will end the
book equipped with the knowledge of testing web services and configuration and application
integration tips and tricks the recipes take a problem solution approach to resolve issues
commonly faced by python programmers across the globe you will be armed with the knowledge of
creating applications with flexible logging powerful configuration and command line options
automated unit tests and good documentation style and approach this book takes a recipe based
approach where each recipe addresses specific problems and issues the recipes provide discussions
and insights and an explanation of the problems

Python Recipes Handbook *2016-11-08*

learn the code to write algorithms numerical computations data analysis and much more using the
python language look up and re use the recipes for your own python coding this book is your handy
code cookbook reference whether you re a maker game developer cloud computing programmer and more
this is a must have reference for your library python recipes handbook gives you the most common

and contemporary code snippets using pandas python data analysis library numpy and other numerical python packages what you ll learn code with the pandas python data analysis library work with the various python algorithms useful for today s big data analytics and cloud applications use numpy and other numerical python packages and code for doing various kinds of analysis discover python s new popular modules packages extensions and templates library who this book is for this handy reference is for those with some experience with python

Python Cookbook *2013-05-10*

if you need help writing programs in python 3 or want to update older python 2 code this book is just the ticket packed with practical recipes written and tested with python 3 3 this unique cookbook is for experienced python programmers who want to focus on modern tools and idioms inside you ll find complete recipes for more than a dozen topics covering the core python language as well as tasks common to a wide variety of application domains each recipe contains code samples you can use in your projects right away along with a discussion about how and why the solution works topics include data structures and algorithms strings and text numbers dates and times iterators and generators files and i o data encoding and processing functions classes and objects metaprogramming modules and packages network and programming concurrency utility scripting and system administration testing debugging and exceptions c extensions

Modern Python Cookbook *2020-07-31*

python is a great language that can power your applications with great speed safety and scalability we cover 133 python recipes this book simplifies python for everybody right from beginners to experts all recipes take a problem solution approach to resolve issues commonly faced by python programmers across the globe

Python Recipes *2016-01-08*

python recipes is your handy code cookbook reference from apress written by robert a gibson of ibm this guide gives you the most common and contemporary code snippets for today s most likely and important types of applications involving the python language in this reference you ll learn the code to write algorithms numerical computations data analysis and much more look up and re use the recipes for your own python coding whether you re a maker game developer cloud computing programmer and more this is a must have reference for your library

Modern Python Standard Library Cookbook *2018-08-31*

build optimized applications in python by smartly implementing the standard library key features strategic recipes for effective application development in python techniques to create guis and implement security through cryptography best practices for developing readily scalable production ready applications book description the python 3 standard library is a vast array of modules that you can use for developing various kinds of applications it contains an exhaustive list of libraries and this book will help you choose the best one to address specific programming problems in python the modern python standard library cookbook begins with recipes on containers and data structures and guides you in performing effective text management in python you will find python recipes for command line operations networking filesystems and directories and concurrent execution you will learn about python security essentials in python and get to grips with various development tools for debugging benchmarking inspection error reporting and tracing the book includes recipes to help you create graphical user interfaces for your application you will learn to work with multimedia components and perform mathematical operations on date and time the recipes will also show you how to deploy different searching and sorting algorithms on your data by the end of the book you will have acquired the skills needed to write clean code in python and develop applications that meet your needs what you will learn store multiple values per key in associative containers create interactive character based user interfaces work with native time and display data for your time zone read write sgml family languages both as a sax and dom parser to meet file sizes and other requirements group equivalent items using itertools and sorted features together use partials to create unary functions out of multi argument functions implement hashing algorithms to store passwords in a safe way who this book is for if you are a developer who wants to write highly responsive manageable scalable and resilient code in python this book is for you prior programming knowledge in python will help you make the most out of the book

Python Automation Cookbook *2018-09-27*

step by step instructions which take you through each program to automate monotonous tasks with python 3 7 key featuresautomate integral business processes such as report generation email marketing and lead generationbuild your first web application that scrapes data and accesses websites apiscreate graphic rich charts graphs and maps using matplotlibbook description have you been doing the same old monotonous office work over and over again or have you been trying to find an easy way to make your life better by automating some of your repetitive tasks through a tried and tested approach understand how to automate all the boring stuff using python the python automation cookbook helps you develop a clear understanding of how to automate your business processes using python including detecting opportunities by scraping the web analyzing information

to generate automatic spreadsheets reports with graphs and communicating with automatically generated emails you ll learn how to get notifications via text messages and run tasks while your mind is focused on other important activities followed by understanding how to scan documents such as résumés once you ve gotten familiar with the fundamentals you ll be introduced to the world of graphs along with studying how to produce organized charts using matplotlib in addition to this you ll gain in depth knowledge of how to generate rich graphics showing relevant information by the end of this book you ll have refined your skills by attaining a sound understanding of how to identify and correct problems to produce superior and reliable systems what you will learnget to grips with scraping a website to detect changessearch and process raw sales files to aggregate information in spreadsheetsexplore techniques to extract information from an excel spreadsheet and generate exciting reports with graphsdiscover the techniques required to generate random print friendly codes to be used as single use couponsautomatically generate a marketing campaign contacting the recipients over different channelsidentify and implement precise solutionswho this book is for the python automation cookbook is for you if you are a developer or anyone who wants to automate monotonous manual tasks related to fields such as finance sales and hr among others

Python Recipes for Earth Sciences 2022-09-28

python is used in a wide range of geoscientific applications such as in processing images for remote sensing in generating and processing digital elevation models and in analyzing time series this book introduces methods of data analysis in the geosciences using python that include basic statistics for univariate bivariate and multivariate data sets time series analysis and signal processing the analysis of spatial and directional data and image analysis the text includes numerous examples that demonstrate how python can be used on data sets from the earth sciences the supplementary electronic material available online through springer link contains the example data as well as recipes that include all the python commands featured in the book

Python Digital Forensics Cookbook 2017-09-26

over 60 recipes to help you learn digital forensics and leverage python scripts to amplify your examinations about this book develop code that extracts vital information from everyday forensic acquisitions increase the quality and efficiency of your forensic analysis leverage the latest resources and capabilities available to the forensic community who this book is for if you are a digital forensics examiner cyber security specialist or analyst at heart understand the basics of python and want to take it to the next level this is the book for you along the way you will be introduced to a number of libraries suitable for parsing forensic artifacts readers will be able to use and build upon the scripts we develop to elevate their analysis what you will learn

understand how python can enhance digital forensics and investigations learn to access the contents of and process forensic evidence containers explore malware through automated static analysis extract and review message contents from a variety of email formats add depth and context to discovered ip addresses and domains through various application program interfaces apis delve into mobile forensics and recover deleted messages from sqlite databases index large logs into a platform to better query and visualize datasets in detail technology plays an increasingly large role in our daily lives and shows no sign of stopping now more than ever it is paramount that an investigator develops programming expertise to deal with increasingly large datasets by leveraging the python recipes explored throughout this book we make the complex simple quickly extracting relevant information from large datasets you will explore develop and deploy python code and libraries to provide meaningful results that can be immediately applied to your investigations throughout the python digital forensics cookbook recipes include topics such as working with forensic evidence containers parsing mobile and desktop operating system artifacts extracting embedded metadata from documents and executables and identifying indicators of compromise you will also learn to integrate scripts with application program interfaces apis such as virustotal and passivetotal and tools such as axiom cellebrite and encase by the end of the book you will have a sound understanding of python and how you can use it to process artifacts in your investigations style and approach our succinct recipes take a no frills approach to solving common challenges faced in investigations the code in this book covers a wide range of artifacts and data sources these examples will help improve the accuracy and efficiency of your analysis no matter the situation

Python Recipes for Engineers and Scientists *2018-07-18*

this book is not a manual of python nor does it replace many excellent books on the use of this cool language what this book offers is a friendly aid for some of the frequent numerical problems that arise in the analytical study of many engineering and physical problems the chapters of the book reach the point in a simple way by deliberately giving up to impress the reader with the power and sophistication of python in favor of readability and understanding the scripts are autonomous and solve very specific problems such as interpolation and fitting non linear equations integration differential equations in few essential sentences even so the reader will see that they can combined and adapt to real problems i assumed that the reader has some elementary knowledge of script writing although not necessarily advanced knowledge yet a python primer is included at the end

Python编程入门经典 *2007-06*

本书是 python编程的入门教材，作者均为有关方面 的专家。书中全面、系统地介绍了可以说是目前功能 最强大的编程 语言之一的 python语言 的各种特性。 内容包括从基本概念到面向对象编程等各方面的 知识，python的发展历史、语言特 性以及函数、逻辑和字符串 处理，python的各种内置数据结构，正则表达 式、网络编程、数据库、 python的各个高级主题，以及各种应用实例。本书既 可作为 python的教材供相关专业的学生使用。

Python Feature Engineering Cookbook *2020-01-22*

extract accurate information from data to train and improve machine learning models using numpy
scipy pandas and scikit learn libraries key featuresdiscover solutions for feature generation
feature extraction and feature selectionuncover the end to end feature engineering process across
continuous discrete and unstructured datasetsimplement modern feature extraction techniques using
python s pandas scikit learn scipy and numpy librariesbook description feature engineering is
invaluable for developing and enriching your machine learning models in this cookbook you will
work with the best tools to streamline your feature engineering pipelines and techniques and
simplify and improve the quality of your code using python libraries such as pandas scikit learn
featuretools and feature engine you ll learn how to work with both continuous and discrete
datasets and be able to transform features from unstructured datasets you will develop the skills
necessary to select the best features as well as the most suitable extraction techniques this book
will cover python recipes that will help you automate feature engineering to simplify complex
processes you ll also get to grips with different feature engineering strategies such as the box
cox transform power transform and log transform across machine learning reinforcement learning and
natural language processing nlp domains by the end of this book you ll have discovered tips and
practical solutions to all of your feature engineering problems what you will learnsimplify your
feature engineering pipelines with powerful python packagesget to grips with imputing missing
valuesencode categorical variables with a wide set of techniquesextract insights from text quickly
and effortlesslydevelop features from transactional data and time series dataderive new features
by combining existing variablesunderstand how to transform discretize and scale your
variablescreate informative variables from date and timewho this book is for this book is for
machine learning professionals ai engineers data scientists and nlp and reinforcement learning
engineers who want to optimize and enrich their machine learning models with the best features
knowledge of machine learning and python coding will assist you with understanding the concepts
covered in this book

Pandas 1.x Cookbook *2020-02-27*

use the power of pandas to solve most complex scientific computing problems with ease revised for pandas 1 x key features this is the first book on pandas 1 x practical easy to implement recipes for quick solutions to common problems in data using pandas master the fundamentals of pandas to quickly begin exploring any dataset book descriptionthe pandas library is massive and it s common for frequent users to be unaware of many of its more impressive features the official pandas documentation while thorough does not contain many useful examples of how to piece together multiple commands as one would do during an actual analysis this book guides you as if you were looking over the shoulder of an expert through situations that you are highly likely to encounter this new updated and revised edition provides you with unique idiomatic and fun recipes for both fundamental and advanced data manipulation tasks with pandas some recipes focus on achieving a deeper understanding of basic principles or comparing and contrasting two similar operations other recipes will dive deep into a particular dataset uncovering new and unexpected insights along the way many advanced recipes combine several different features across the pandas library to generate results what you will learn master data exploration in pandas through dozens of practice problems group aggregate transform reshape and filter data merge data from different sources through pandas sql like operations create visualizations via pandas hooks to matplotlib and seaborn use pandas time series functionality to perform powerful analyses import clean and prepare real world datasets for machine learning create workflows for processing big data that doesn t fit in memory who this book is for this book is for python developers data scientists engineers and analysts pandas is the ideal tool for manipulating structured data with python and this book provides ample instruction and examples not only does it cover the basics required to be proficient but it goes into the details of idiomatic pandas

Python Cookbook, 2/E (Covers Python 2.3 & 2.4) *2005*

the python cookbook is a collection of problems solutions and practical examples for python programmers written by python programmers over the past year members of the python community have contributed material to an online repository of python recipes hosted by activestate this book contains the best of those recipes accompanied by overviews and background material by key python figures

Secret Recipes of the Python Ninja *2018-05-21*

test your python programming skills by solving real world problems key features access built in

documentation tools and improve your code discover how to make the best use of decorator and generator functions enhance speed and improve concurrency by conjuring tricks from the pypy project book description this book covers the unexplored secrets of python delve into its depths and uncover its mysteries you ll unearth secrets related to the implementation of the standard library by looking at how modules actually work you ll understand the implementation of collections decimals and fraction modules if you haven t used decorators coroutines and generator functions much before as you make your way through the recipes you ll learn what you ve been missing out on we ll cover internal special methods in detail so you understand what they are and how they can be used to improve the engineering decisions you make next you ll explore the cpython interpreter which is a treasure trove of secret hacks that not many programmers are aware of we ll take you through the depths of the pypy project where you ll come across several exciting ways that you can improve speed and concurrency finally we ll take time to explore the peps of the latest versions to discover some interesting hacks what you will learn know the differences between py and pyc files explore the different ways to install and upgrade python packages understand the working of the pypi module that enhances built in decorators see how coroutines are different from generators and how they can simulate multithreading grasp how the decimal module improves floating point numbers and their operations standardize sub interpreters to improve concurrency discover python s built in docstring analyzer who this book is for whether you ve been working with python for a few years or you re a seasoned programmer you ll have a lot of new tricks to walk away with

Python Cookbook 2002

thepython cookbookis a collection of problems solutions and practical examples for python programmers written by python programmers over the past year members of the python community have contributed material to an online repository of python recipes hosted by activestate this book contains the best of those recipes accompanied by overviews and background material by key python figures the recipes in thepython cookbookrange from simple tasks such as working with dictionaries and list comprehensions to entire modules that demonstrate templating systems and network monitoring this book contains over 200 recipes on the following topics searching and sorting manipulating text working with files and the filesystem object oriented programming dealing with threads and processes system administration interacting with databases creating user interfaces network and web programming processing xml distributed programming debugging and testing extending python this book is a treasure trove of useful code for all python programmers from novices to advanced practitioners with contributions from such python luminaries as guido van rossum david ascher tim peters paul prescod mark hammond and alex martelli as well as over 100 other python programmers the recipes highlight python best practices and can be used directly in day to day

programming tasks as a source of ideas or as a way to learn more about python the recipes in thepython cookbookwere edited by david ascher who is on the board of the python software foundation and is the co author oflearning python and alex martelli who is known for his numerous and exhaustive postings on the python mailing list the book contains a foreword by guido van rossum the creator of python

scikit-learn Cookbook 2017-11-16

learn to use scikit learn operations and functions for machine learning and deep learning applications about this book handle a variety of machine learning tasks effortlessly by leveraging the power of scikit learn perform supervised and unsupervised learning with ease and evaluate the performance of your model practical easy to understand recipes aimed at helping you choose the right machine learning algorithm who this book is for data analysts already familiar with python but not so much with scikit learn who want quick solutions to the common machine learning problems will find this book to be very useful if you are a python programmer who wants to take a dive into the world of machine learning in a practical manner this book will help you too what you will learn build predictive models in minutes by using scikit learn understand the differences and relationships between classification and regression two types of supervised learning use distance metrics to predict in clustering a type of unsupervised learning find points with similar characteristics with nearest neighbors use automation and cross validation to find a best model and focus on it for a data product choose among the best algorithm of many or use them together in an ensemble create your own estimator with the simple syntax of sklearn explore the feed forward neural networks available in scikit learn in detail python is quickly becoming the go to language for analysts and data scientists due to its simplicity and flexibility and within the python data space scikit learn is the unequivocal choice for machine learning this book includes walk throughs and solutions to the common as well as the not so common problems in machine learning and how scikit learn can be leveraged to perform various machine learning tasks effectively the second edition begins with taking you through recipes on evaluating the statistical properties of data and generates synthetic data for machine learning modelling as you progress through the chapters you will comes across recipes that will teach you to implement techniques like data pre processing linear regression logistic regression k nn naive bayes classification decision trees ensembles and much more furthermore you ll learn to optimize your models with multi class classification cross validation model evaluation and dive deeper in to implementing deep learning with scikit learn along with covering the enhanced features on model section api and new features like classifiers regressors and estimators the book also contains recipes on evaluating and fine tuning the performance of your model by the end of this book you will have explored plethora of features offered by scikit learn for python to solve any machine learning problem you come across style and

approach this book consists of practical recipes on scikit learn that target novices as well as intermediate users it goes deep into the technical issues covers additional protocols and many more real live examples so that you are able to implement it in your daily life scenarios

Python Text Processing with NLTK 2.0 Cookbook *2010*

the learn by doing approach of this book will enable you to dive right into the heart of text processing from the very first page each recipe is carefully designed to fulfill your appetite for natural language processing packed with numerous illustrative examples and code samples it will make the task of using the nltk for natural language processing easy and straightforward this book is for python programmers who want to quickly get to grips with using the nltk for natural language processing familiarity with basic text processing concepts is required programmers experienced in the nltk will also find it useful students of linguistics will find it invaluable

Python for Finance Cookbook *2020-01-31*

solve common and not so common financial problems using python libraries such as numpy scipy and pandas key featuresuse powerful python libraries such as pandas numpy and scipy to analyze your financial dataexplore unique recipes for financial data analysis and processing with pythonestimate popular financial models such as capm and garch using a problem solution approachbook description python is one of the most popular programming languages used in the financial industry with a huge set of accompanying libraries in this book you ll cover different ways of downloading financial data and preparing it for modeling you ll calculate popular indicators used in technical analysis such as bollinger bands macd rsi and backtest automatic trading strategies next you ll cover time series analysis and models such as exponential smoothing arima and garch including multivariate specifications before exploring the popular capm and the fama french three factor model you ll then discover how to optimize asset allocation and use monte carlo simulations for tasks such as calculating the price of american options and estimating the value at risk var in later chapters you ll work through an entire data science project in the financial domain you ll also learn how to solve the credit card fraud and default problems using advanced classifiers such as random forest xgboost lightgbm and stacked models you ll then be able to tune the hyperparameters of the models and handle class imbalance finally you ll focus on learning how to use deep learning pytorch for approaching financial tasks by the end of this book you ll have learned how to effectively analyze financial data using a recipe based approach what you will learndownload and preprocess financial data from different sourcesbacktest the performance of automatic trading strategies in a real world settingestimate financial econometrics models in python and interpret their resultsuse monte carlo simulations for a variety of tasks

such as derivatives valuation and risk assessmentimprove the performance of financial models with the latest python librariesapply machine learning and deep learning techniques to solve different financial problemsunderstand the different approaches used to model financial time series datawho this book is for this book is for financial analysts data analysts and python developers who want to learn how to implement a broad range of tasks in the finance domain data scientists looking to devise intelligent financial strategies to perform efficient financial analysis will also find this book useful working knowledge of the python programming language is mandatory to grasp the concepts covered in the book effectively

Python Cookbook *2005-03-18*

portable powerful and a breeze to use python is the popular open source object oriented programming language used for both standalone programs and scripting applications it is now being used by an increasing number of major organizations including nasa and google updated for python 2 4 the python cookbook 2nd edition offers a wealth of useful code for all python programmers not just advanced practitioners like its predecessor the new edition provides solutions to problems that python programmers face everyday it now includes over 200 recipes that range from simple tasks such as working with dictionaries and list comprehensions to complex tasks such as monitoring a network and building a templating system this revised version also includes new chapters on topics such as time money and metaprogramming here s a list of additional topics covered manipulating text searching and sorting working with files and the filesystem object oriented programming dealing with threads and processes system administration interacting with databases creating user interfaces network and web programming processing xml distributed programming debugging and testing another advantage of the python cookbook 2nd edition is its trio of authors three well known python programming experts who are highly visible on email lists and in newsgroups and speak often at python conferences with scores of practical examples and pertinent background information the python cookbook 2nd edition is the one source you need if you re looking to build efficient flexible scalable and well integrated systems

The Python Audio Cookbook 2023-12-18

the python audio cookbook offers an introduction to python for sound and multimedia applications with chapters that cover writing your first python programs controlling pyo with physical computing and writing your own gui among many other topics guiding the reader through a variety of audio synthesis techniques the book empowers readers to combine their projects with popular platforms from the arduino to twitter and state of the art practices such as ai the python audio cookbook balances accessible explanations for theoretical concepts including python syntax audio

processing and machine learning with practical applications this book is an essential introductory guide to python for sound and multimedia practitioners as well as programmers interested in audio applications

Python Natural Language Processing Cookbook *2021-03-19*

get to grips with solving real world nlp problems such as dependency parsing information extraction topic modeling and text data visualization key featuresanalyze varying complexities of text using popular python packages such as nltk spacy sklearn and gensimimplement common and not so common linguistic processing tasks using python librariesovercome the common challenges faced while implementing nlp pipelinesbook description python is the most widely used language for natural language processing nlp thanks to its extensive tools and libraries for analyzing text and extracting computer usable data this book will take you through a range of techniques for text processing from basics such as parsing the parts of speech to complex topics such as topic modeling text classification and visualization starting with an overview of nlp the book presents recipes for dividing text into sentences stemming and lemmatization removing stopwords and parts of speech tagging to help you to prepare your data you ll then learn ways of extracting and representing grammatical information such as dependency parsing and anaphora resolution discover different ways of representing the semantics using bag of words tf idf word embeddings and bert and develop skills for text classification using keywords svms lstms and other techniques as you advance you ll also see how to extract information from text implement unsupervised and supervised techniques for topic modeling and perform topic modeling of short texts such as tweets additionally the book shows you how to develop chatbots using nltk and rasa and visualize text data by the end of this nlp book you ll have developed the skills to use a powerful set of tools for text processing what you will learnbecome well versed with basic and advanced nlp techniques in pythonrepresent grammatical information in text using spacy and semantic information using bag of words tf idf and word embeddingsperform text classification using different methods including svms and lstmsexplore different techniques for topic modeling such as k means lda nmf and bertwork with visualization techniques such as ner and word clouds for different nlp toolsbuild a basic chatbot using nltk and rasaextract information from text using regular expression techniques and statistical and deep learning toolswho this book is for this book is for data scientists and professionals who want to learn how to work with text intermediate knowledge of python will help you to make the most out of this book if you are an nlp practitioner this book will serve as a code reference when working on your projects

MicroPython Cookbook *2019-05-21*

learn how you can control leds make music and read sensor data using popular microcontrollers such as adafruit circuit playground esp8266 and the bbc micro bit key featuresload and execute your first program with micropythonprogram an iot device to retrieve weather data using a restful apiget to grips with integrating hardware programming and networking concepts with micropythonbook description micropython is an open source implementation of python 3 that runs in embedded environments with micropython you can write clean and simple python code to control hardware instead of using complex low level languages like c and c this book guides you through all the major applications of the micropython platform to build and program projects that use microcontrollers the micropython book covers recipes that ll help you experiment with the programming environment and hardware programmed in micropython you ll find tips and techniques for building a variety of objects and prototypes that can sense and respond to touch sound position heat and light this book will take you through the uses of micropython with a variety of popular input devices and sensors you ll learn techniques for handling time delays and sensor readings and apply advanced coding techniques to create complex projects as you advance you ll get to deal with internet of things iot devices and integration with other online web services furthermore you ll also use micropython to make music with bananas and create portable multiplayer video games that incorporate sound and light animations into the game play by the end of the book you ll have mastered tips and tricks to troubleshoot your development problems and push your micropython project to the next level what you will learnexecute code without any need for compiling or uploading using repl read evaluate print loop program and control led matrix and neopixel drivers to display patterns and colorsbuild projects that make use of light temperature and touch sensorsconfigure devices to create wi fi access points and use network modules to scan and connect to existing networksuse pulse width modulation to control dc motors and servosbuild an iot device to display live weather data from the internet at the touch of a buttonwho this book is for if you want to build and program projects that use microcontrollers this book will offer you dozens of recipes to guide you through all the major applications of the micropython platform although no knowledge of micropython or microcontrollers is expected a general understanding of python is necessary to get started with this book

wxPython Recipes *2017-12-12*

quickly discover solutions to common problems learn best practices and understand everything wxpython has to offer this book is for anyone wanting to learn more about how to use the wxpython desktop gui toolkit it assumes some prior knowledge of python and a general understanding of wxpython or gui development and contains more than 50 recipes covering various tasks and aspects

of the toolkit wxpython recipes guides you step by step the book takes you through how to create user interfaces in python including adding widgets changing background images manipulating dialogs managing data and much more examples target both python 2 x and 3 x and cover both wxpython 3 0 and phoenix offering a complete collection of ideas to improve your gui development what you ll learn work with ui elements such as widgets buttons images boxes and more handle data in files and notebooks implement xml and using xml resources xrc customize the behavior of panels and objects who this book is for people who are already familiar with the python programming language and also have a basic understanding of wxpython readers who understand event loops and the basics of creating user interfaces with another python ui toolkit such as tkinter or pyqt

PySpark Cookbook 2018-06-29

combine the power of apache spark and python to build effective big data applications key features perform effective data processing machine learning and analytics using pyspark overcome challenges in developing and deploying spark solutions using python explore recipes for efficiently combining python and apache spark to process data book description apache spark is an open source framework for efficient cluster computing with a strong interface for data parallelism and fault tolerance the pyspark cookbook presents effective and time saving recipes for leveraging the power of python and putting it to use in the spark ecosystem you ll start by learning the apache spark architecture and how to set up a python environment for spark you ll then get familiar with the modules available in pyspark and start using them effortlessly in addition to this you ll discover how to abstract data with rdds and dataframes and understand the streaming capabilities of pyspark you ll then move on to using ml and mllib in order to solve any problems related to the machine learning capabilities of pyspark and use graphframes to solve graph processing problems finally you will explore how to deploy your applications to the cloud using the spark submit command by the end of this book you will be able to use the python api for apache spark to solve any problems associated with building data intensive applications what you will learn configure a local instance of pyspark in a virtual environment install and configure jupyter in local and multi node environments create dataframes from json and a dictionary using pyspark sql explore regression and clustering models available in the ml module use dataframes to transform data used for modeling connect to pubnub and perform aggregations on streams who this book is for the pyspark cookbook is for you if you are a python developer looking for hands on recipes for using the apache spark 2 x ecosystem in the best possible way a thorough understanding of python and some familiarity with spark will help you get the best out of the book

Time Series Analysis with Python Cookbook *2022-06-30*

perform time series analysis and forecasting confidently with this python code bank and reference manual key features explore forecasting and anomaly detection techniques using statistical machine learning and deep learning algorithms learn different techniques for evaluating diagnosing and optimizing your models work with a variety of complex data with trends multiple seasonal patterns and irregularities book description time series data is everywhere available at a high frequency and volume it is complex and can contain noise irregularities and multiple patterns making it crucial to be well versed with the techniques covered in this book for data preparation analysis and forecasting this book covers practical techniques for working with time series data starting with ingesting time series data from various sources and formats whether in private cloud storage relational databases non relational databases or specialized time series databases such as influxdb next you ll learn strategies for handling missing data dealing with time zones and custom business days and detecting anomalies using intuitive statistical methods followed by more advanced unsupervised ml models the book will also explore forecasting using classical statistical models such as holt winters sarima and var the recipes will present practical techniques for handling non stationary data using power transforms acf and pacf plots and decomposing time series data with multiple seasonal patterns later you ll work with ml and dl models using tensorflow and pytorch finally you ll learn how to evaluate compare optimize models and more using the recipes covered in the book what you will learn understand what makes time series data different from other data apply various imputation and interpolation strategies for missing data implement different models for univariate and multivariate time series use different deep learning libraries such as tensorflow keras and pytorch plot interactive time series visualizations using hvplot explore state space models and the unobserved components model ucm detect anomalies using statistical and machine learning methods forecast complex time series with multiple seasonal patterns who this book is for this book is for data analysts business analysts data scientists data engineers or python developers who want practical python recipes for time series analysis and forecasting techniques fundamental knowledge of python programming is required although having a basic math and statistics background will be beneficial it is not necessary prior experience working with time series data to solve business problems will also help you to better utilize and apply the different recipes in this book

Matplotlib 3.0 Cookbook *2018-10-23*

build attractive insightful and powerful visualizations to gain quality insights from your data key featuresmaster matplotlib for data visualizationcustomize basic plots to make and deploy figures in cloud environmentsexplore recipes to design various data visualizations from simple bar

charts to advanced 3d plotsbook description matplotlib provides a large library of customizable plots along with a comprehensive set of backends matplotlib 3 0 cookbook is your hands on guide to exploring the world of matplotlib and covers the most effective plotting packages for python 3 7 with the help of this cookbook you ll be able to tackle any problem you might come across while designing attractive insightful data visualizations with the help of over 150 recipes you ll learn how to develop plots related to business intelligence data science and engineering disciplines with highly detailed visualizations once you ve familiarized yourself with the fundamentals you ll move on to developing professional dashboards with a wide variety of graphs and sophisticated grid layouts in 2d and 3d you ll annotate and add rich text to the plots enabling the creation of a business storyline in addition to this you ll learn how to save figures and animations in various formats for downstream deployment followed by extending the functionality offered by various internal and third party toolkits such as axisartist axes grid cartopy and seaborn by the end of this book you ll be able to create high quality customized plots and deploy them on the web and on supported gui applications such as tkinter qt 5 and wxpython by implementing real world use cases and examples what you will learndevelop simple to advanced data visualizations in matplotlib use the pyplot api to quickly develop and deploy different plots use object oriented apis for maximum flexibility with the customization of figuresdevelop interactive plots with animation and widgets use maps for geographical plotting enrich your visualizations using embedded texts and mathematical expressionsembed matplotlib plots into other guis used for developing applicationsuse toolkits such as axisartist axes grid1 and cartopy to extend the base functionality of matplotlibwho this book is for the matplotlib 3 0 cookbook is for you if you are a data analyst data scientist or python developer looking for quick recipes for a multitude of visualizations this book is also for those who want to build variations of interactive visualizations

Pandas Cookbook *2017-10-23*

over 95 hands on recipes to leverage the power of pandas for efficient scientific computation and data analysis about this book use the power of pandas to solve most complex scientific computing problems with ease leverage fast robust data structures in pandas to gain useful insights from your data practical easy to implement recipes for quick solutions to common problems in data using pandas who this book is for this book is for data scientists analysts and python developers who wish to explore data analysis and scientific computing in a practical hands on manner the recipes included in this book are suitable for both novice and advanced users and contain helpful tips tricks and caveats wherever necessary some understanding of pandas will be helpful but not mandatory what you will learn master the fundamentals of pandas to quickly begin exploring any dataset isolate any subset of data by properly selecting and querying the data split data into independent groups before applying aggregations and transformations to each group restructure data

into tidy form to make data analysis and visualization easier prepare real world messy datasets for machine learning combine and merge data from different sources through pandas sql like operations utilize pandas unparalleled time series functionality create beautiful and insightful visualizations through pandas direct hooks to matplotlib and seaborn in detail this book will provide you with unique idiomatic and fun recipes for both fundamental and advanced data manipulation tasks with pandas some recipes focus on achieving a deeper understanding of basic principles or comparing and contrasting two similar operations other recipes will dive deep into a particular dataset uncovering new and unexpected insights along the way the pandas library is massive and it s common for frequent users to be unaware of many of its more impressive features the official pandas documentation while thorough does not contain many useful examples of how to piece together multiple commands like one would do during an actual analysis this book guides you as if you were looking over the shoulder of an expert through practical situations that you are highly likely to encounter many advanced recipes combine several different features across the pandas library to generate results style and approach the author relies on his vast experience teaching pandas in a professional setting to deliver very detailed explanations for each line of code in all of the recipes all code and dataset explanations exist in jupyter notebooks an excellent interface for exploring data

Deep Learning for Time Series Cookbook 2024-03-29

learn how to deal with time series data and how to model it using deep learning and take your skills to the next level by mastering pytorch using different python recipes key features learn the fundamentals of time series analysis and how to model time series data using deep learning explore the world of deep learning with pytorch and build advanced deep neural networks gain expertise in tackling time series problems from forecasting future trends to classifying patterns and anomaly detection purchase of the print or kindle book includes a free pdf ebook book descriptionmost organizations exhibit a time dependent structure in their processes including fields such as finance by leveraging time series analysis and forecasting these organizations can make informed decisions and optimize their performance accurate forecasts help reduce uncertainty and enable better planning of operations unlike traditional approaches to forecasting deep learning can process large amounts of data and help derive complex patterns despite its increasing relevance getting the most out of deep learning requires significant technical expertise this book guides you through applying deep learning to time series data with the help of easy to follow code recipes you ll cover time series problems such as forecasting anomaly detection and classification this deep learning book will also show you how to solve these problems using different deep neural network architectures including convolutional neural networks cnns or transformers as you progress you ll use pytorch a popular deep learning framework based on python to build production ready

prediction solutions by the end of this book you ll have learned how to solve different time series tasks with deep learning using the pytorch ecosystem what you will learn grasp the core of time series analysis and unleash its power using python understand pytorch and how to use it to build deep learning models discover how to transform a time series for training transformers understand how to deal with various time series characteristics tackle forecasting problems involving univariate or multivariate data master time series classification with residual and convolutional neural networks get up to speed with solving time series anomaly detection problems using autoencoders and generative adversarial networks gans who this book is for if you re a machine learning enthusiast or someone who wants to learn more about building forecasting applications using deep learning this book is for you basic knowledge of python programming and machine learning is required to get the most out of this book

Getting Started in Machine Learning 2020

this is an introductory book in machine learning with a hands on approach it uses python 3 and jupyter notebooks for all applications the emphasis is primarily on learning to use existing libraries such as scikit learn with easy recipes and existing data files that can found on line topics include linear multilinear polynomial stepwise lasso ridge and logistic regression roc curves and measures of binary classification nonlinear regression including an introduction to gradient descent classification and regression trees random forests neural networks probabilistic methods knn naive bayes qda lda dimensionality reduction with pca support vector machines and clustering with k means hierarchical and dbscan appendices provide a review of probability and linear algebra while some mathematical foundation is provided it is not essential for understanding the implementations the target audience is advanced community college students and intermediate university students in the sciences and engineering

SciPy Recipes *2017-12-20*

tackle the most sophisticated problems associated with scientific computing and data manipulation using scipy key features covers a wide range of data science tasks using scipy numpy pandas and matplotlib effective recipes on advanced scientific computations statistics data wrangling data visualization and more a must have book if you re looking to solve your data related problems using scipy on the go book description with the scipy stack you get the power to effectively process manipulate and visualize your data using the popular python language utilizing scipy correctly can sometimes be a very tricky proposition this book provides the right techniques so you can use scipy to perform different data science tasks with ease this book includes hands on recipes for using the different components of the scipy stack such as numpy scipy matplotlib and

pandas among others you will use these libraries to solve real world problems in linear algebra numerical analysis data visualization and much more the recipes included in the book will ensure you get a practical understanding not only of how a particular feature in scipy stack works but also of its application to real world problems the independent nature of the recipes also ensure that you can pick up any one and learn about a particular feature of scipy without reading through the other recipes thus making the book a very handy and useful guide what you will learn get a solid foundation in scientific computing using python master common tasks related to scipy and associated libraries such as numpy pandas and matplotlib perform mathematical operations such as linear algebra and work with the statistical and probability functions in scipy master advanced computing such as discrete fourier transform and k means with the scipy stack implement data wrangling tasks efficiently using pandas visualize your data through various graphs and charts using matplotlib who this book is for python developers aspiring data scientists and analysts who want to get started with scientific computing using python will find this book an indispensable resource if you want to learn how to manipulate and visualize your data using the scipy stack this book will also help you a basic understanding of python programming is all you need to get started

Raspberry Pi 3 Cookbook for Python Programmers *2018-04-30*

a recipe based guide to programming your raspberry pi 3 using python key features leverage the power of raspberry pi 3 using python programming create 3d games build neural network modules and interface with your own circuits packed with clear step by step recipes to walk you through the capabilities of raspberry pi book description raspberry pi 3 cookbook for python programmers third edition begins by guiding you through setting up raspberry pi 3 performing tasks using python 3 6 and introducing the first steps to interface with electronics as you work through each chapter you will build your skills and apply them as you progress you will learn how to build text classifiers predict sentiments in words develop applications using the popular tkinter library and create games by controlling graphics on your screen you will harness the power of a built in graphics processor using pi3d to generate your own high quality 3d graphics and environments you will understand how to connect raspberry pi s hardware pins directly to control electronics from switching on leds and responding to push buttons to driving motors and servos get to grips with monitoring sensors to gather real life data using it to control other devices and viewing the results over the internet you will apply what you have learned by creating your own pi rover or pi hexipod robots you will also learn about sentiment analysis face recognition techniques and building neural network modules for optical character recognition finally you will learn to build movie recommendations system on raspberry pi 3 what you will learn learn to set up and run raspberry pi 3 build text classifiers and perform automation using python predict sentiments in words and create games and graphics detect edges and contours in images build human face detection

and recognition system use python to drive hardware sense and display real world data build a neural network module for optical character recognition build movie recommendations system who this book is for this book is for anyone who wants to master the skills of python programming using raspberry pi 3 prior knowledge of python will be an added advantage

Raspberry Pi for Python Programmers Cookbook - Second Edition 2016-10-07

over 60 recipes that harness the power of the raspberry pi together with python programming and create enthralling and captivating projectsabout this book install your first operating system share files over the network and run programs remotely construct robots and interface with your own circuits and purpose built add ons as well as adapt off the shelf household devices using this pragmatic guide packed with clear step by step recipes to walk you through the capabilities of raspberry pi who this book is forreaders are expected to be familiar with programming concepts and python where possible python 3 is used although beginners should manage with the help of a good python reference book and background reading no prior knowledge of the raspberry pi or electronics is required however for the hardware sections you will need some basic electronic components household tools to build some of the projects what you will learn get the raspberry pi set up and running for the first time remotely connect to the raspberry pi and use your pc laptop instead of a separate screen keyboard get to grips with text files and creating quick menus using python develop desktop applications handle images and process files with ease make use of graphics and user control to develop your own exciting games use the raspberry pi s powerful gpu to create 3d worlds take control of the real world and interface with physical hardware combining hardware and software for your own needs measure and control processes respond to real events and monitor through the internet learn about the raspberry pi hardware inputs outputs starting with the basics and beyond expand the capabilities of the raspberry pi with hardware expansion add on modules use analogue inputs drive servos and motors and use spi i2c create your own pi rover or pi hexpod driven by the raspberry pi make use of existing hardware by modifying and interfacing with it using the raspberry piin detailraspberry pi cookbook for python programmers is a practical guide for getting the most out of this little computer this book begins by guiding you through setting up the raspberry pi performing tasks using python 3 and introduces the first steps to interface with electronics as you work through each chapter you will build up your skills and knowledge and apply them as you progress throughout the book delving further and further into the unique abilities and features of the raspberry pi later you will learn how to automate tasks by accessing files build applications using the popular tkinter library and create games by controlling graphics on screen you will harness the power of the built in graphics processor by using pi3d to generate your own high quality 3d graphics and environments connect directly to the raspberry pi s

hardware pins to control electronics from switching on leds and responding to push buttons right through to driving motors and servos learn how to monitor sensors to gather real life data and to use it to control other devices and view the results over the internet apply what you have learnt by creating your own pi rover or pi hexipod robots finally we will explore using many of the purpose built add ons available for the raspberry pi as well as interfacing with common household devices in new ways style and approachwritten in a cookbook style the book contains a series of recipes on various topics ranging from simple to complex it is an easy to follow and step by step guide with examples of various feature integration suitable for any search application

Python Parallel Programming Cookbook *2019-09-06*

implement effective programming techniques in python to build scalable software that saves time and memory key features design distributed computing systems and massive computational tasks coherently learn practical recipes with concise explanations that address development pain points encountered while coding parallel programs understand how to host your parallelized applications on the cloud book description nowadays it has become extremely important for programmers to understand the link between the software and the parallel nature of their hardware so that their programs run efficiently on computer architectures applications based on parallel programming are fast robust and easily scalable this updated edition features cutting edge techniques for building effective concurrent applications in python 3 7 the book introduces parallel programming architectures and covers the fundamental recipes for thread based and process based parallelism you ll learn about mutex semaphores locks queues exploiting the threading and multiprocessing modules all of which are basic tools to build parallel applications recipes on mpi programming will help you to synchronize processes using the fundamental message passing techniques with mpi4py furthermore you ll get to grips with asynchronous programming and how to use the power of the gpu with pycuda and pyopencl frameworks finally you ll explore how to design distributed computing systems with celery and architect python apps on the cloud using pythonanywhere docker and serverless applications by the end of this book you will be confident in building concurrent and high performing applications in python what you will learn synchronize multiple threads and processes to manage parallel tasks use message passing techniques to establish communication between processes to build parallel applications program your own gpu cards to address complex problems manage computing entities to execute distributed computational task write efficient programs by adopting the event driven programming model explore cloud technology with django and google app engine apply parallel programming techniques that can lead to performance improvements who this book is for the python parallel programming cookbook is for software developers who are well versed with python and want to use parallel programming techniques to write powerful and efficient code this book will help you master the basics and the advanced of parallel computing

Artificial Intelligence with Python Cookbook *2020-10-30*

work through practical recipes to learn how to solve complex machine learning and deep learning problems using python key featuresget up and running with artificial intelligence in no time using hands on problem solving recipesexplore popular python libraries and tools to build ai solutions for images text sounds and imagesimplement nlp reinforcement learning deep learning gans monte carlo tree search and much morebook description artificial intelligence ai plays an integral role in automating problem solving this involves predicting and classifying data and training agents to execute tasks successfully this book will teach you how to solve complex problems with the help of independent and insightful recipes ranging from the essentials to advanced methods that have just come out of research artificial intelligence with python cookbook starts by showing you how to set up your python environment and taking you through the fundamentals of data exploration moving ahead you ll be able to implement heuristic search techniques and genetic algorithms in addition to this you ll apply probabilistic models constraint optimization and reinforcement learning as you advance through the book you ll build deep learning models for text images video and audio and then delve into algorithmic bias style transfer music generation and ai use cases in the healthcare and insurance industries throughout the book you ll learn about a variety of tools for problem solving and gain the knowledge needed to effectively approach complex problems by the end of this book on ai you will have the skills you need to write ai and machine learning algorithms test them and deploy them for production what you will learnimplement data preprocessing steps and optimize model hyperparametersdelve into representational learning with adversarial autoencodersuse active learning recommenders knowledge embedding and sat solversget to grips with probabilistic modeling with tensorflow probabilityrun object detection text to speech conversion and text and music generationapply swarm algorithms multi agent systems and graph networksgo from proof of concept to production by deploying models as microservicesunderstand how to use modern ai in practicewho this book is for this ai machine learning book is for python developers data scientists machine learning engineers and deep learning practitioners who want to learn how to build artificial intelligence solutions with easy to follow recipes you ll also find this book useful if you re looking for state of the art solutions to perform different machine learning tasks in various use cases basic working knowledge of the python programming language and machine learning concepts will help you to work with code effectively in this book

Python Deep Learning Cookbook *2017-10-27*

solve different problems in modelling deep neural networks using python tensorflow and keras with this practical guide about this book practical recipes on training different neural network models and tuning them for optimal performance use python frameworks like tensorflow caffe keras theano

for natural language processing computer vision and more a hands on guide covering the common as well as the not so common problems in deep learning using python who this book is for this book is intended for machine learning professionals who are looking to use deep learning algorithms to create real world applications using python thorough understanding of the machine learning concepts and python libraries such as numpy scipy and scikit learn is expected additionally basic knowledge in linear algebra and calculus is desired what you will learn implement different neural network models in python select the best python framework for deep learning such as pytorch tensorflow mxnet and keras apply tips and tricks related to neural networks internals to boost learning performances consolidate machine learning principles and apply them in the deep learning field reuse and adapt python code snippets to everyday problems evaluate the cost benefits and performance implication of each discussed solution in detail deep learning is revolutionizing a wide range of industries for many applications deep learning has proven to outperform humans by making faster and more accurate predictions this book provides a top down and bottom up approach to demonstrate deep learning solutions to real world problems in different areas these applications include computer vision natural language processing time series and robotics the python deep learning cookbook presents technical solutions to the issues presented along with a detailed explanation of the solutions furthermore a discussion on corresponding pros and cons of implementing the proposed solution using one of the popular frameworks like tensorflow pytorch keras and cntk is provided the book includes recipes that are related to the basic concepts of neural networks all techniques s as well as classical networks topologies the main purpose of this book is to provide python programmers a detailed list of recipes to apply deep learning to common and not so common scenarios style and approach unique blend of independent recipes arranged in the most logical manner

Machine Learning with Python Cookbook 2018

with early release ebooks you get books in their earliest form the author s raw and unedited content as he or she writes so you can take advantage of these technologies long before the official release of these titles you ll also receive updates when significant changes are made new chapters are available and the final ebook bundle is released the python programming language and its libraries including pandas and scikit learn provide a production grade environment to help you accomplish a broad range of machine learning tasks with this comprehensive cookbook data scientists and software engineers familiar with python will benefit from almost 200 practical recipes for building a comprehensive machine learning pipeline everything from data preprocessing and feature engineering to model evaluation and deep learning learn from author chris albon a data scientist who has written more than 500 tutorials on python data science and machine learning each recipe in this practical cookbook includes code solutions that you can put to work right away

along with a discussion of how and why they work making it ideal as a learning tool and reference book

21 Recipes for Mining Twitter *2011-01-31*

millions of public twitter streams harbor a wealth of data and once you mine them you can gain some valuable insights this short and concise book offers a collection of recipes to help you extract nuggets of twitter information using easy to learn python tools each recipe offers a discussion of how and why the solution works so you can quickly adapt it to fit your particular needs the recipes include techniques to use oauth to access twitter data create and analyze graphs of retweet relationships use the streaming api to harvest tweets in realtime harvest and analyze friends and followers discover friendship cliques summarize webpages from short urls this book is a perfect companion to o reilly s mining the social

Python Programming Recipes for IoT Applications *2023-06-07*

the book comprehensively covers the most important applications of the internet of things iot using python programming on raspberry pi micropython py board and nvidia jetson board the authors have used an immersive hands on approach to help readers gain expertise in developing working code for real world iot applications the book focuses on industry standard embedded platforms for iot applications it also gives a glimpse of python programming and setup configuration of these embedded platforms the later chapter highlights basic interface applications with raspberry pi exclusive advanced iot applications on the micropython pyboard are also covered the last two chapters deal with the nvidia jetson nano board programming for machine learning applications with fog cloud computing the various iot applications with different embedded platforms in this volume are best suited for undergraduate postgraduate students and researchers who want to get exposed to python programming for iot applications this book will enable readers to design their own embedded iot products

Python Image Processing Cookbook *2020-04-17*

explore keras scikit image open source computer vision opencv matplotlib and a wide range of other python tools and frameworks to solve real world image processing problems key featuresdiscover solutions to complex image processing tasks using python tools such as scikit image and keraslearn popular concepts such as machine learning deep learning and neural networks for image processingexplore common and not so common challenges faced in image processingbook description

with the advancements in wireless devices and mobile technology there s increasing demand for people with digital image processing skills in order to extract useful information from the ever growing volume of images this book provides comprehensive coverage of the relevant tools and algorithms and guides you through analysis and visualization for image processing with the help of over 60 cutting edge recipes you ll address common challenges in image processing and learn how to perform complex tasks such as object detection image segmentation and image reconstruction using large hybrid datasets dedicated sections will also take you through implementing various image enhancement and image restoration techniques such as cartooning gradient blending and sparse dictionary learning as you advance you ll get to grips with face morphing and image segmentation techniques with an emphasis on practical solutions this book will help you apply deep learning techniques such as transfer learning and fine tuning to solve real world problems by the end of this book you ll be proficient in utilizing the capabilities of the python ecosystem to implement various image processing techniques effectively what you will learnimplement supervised and unsupervised machine learning algorithms for image processinguse deep neural network models for advanced image processing tasksperform image classification object detection and face recognitionapply image segmentation and registration techniques on medical images to assist doctorsuse classical image processing and deep learning methods for image restorationimplement text detection in images using tesseract the optical character recognition ocr engineunderstand image enhancement techniques such as gradient blendingwho this book is for this book is for image processing engineers computer vision engineers software developers machine learning engineers or anyone who wants to become well versed with image processing techniques and methods using a recipe based approach although no image processing knowledge is expected prior python coding experience is necessary to understand key concepts covered in the book

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