

Excel Scientific And Engineering Cookbook Cookbooks Oreilly

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 Web Programming Concurrency Utility Scripting and System Administration Testing, Debugging, and Exceptions C Extensions

Liengme's Guide to Excel 2016 for Scientists and Engineers is a completely updated guide for students, scientists, and engineers who want to use Microsoft Excel 2016 to its full potential, whether you're using a PC or a Mac. Electronic spreadsheet analysis has become part of the everyday work of researchers in all areas of engineering and science. Microsoft Excel, as the industry standard spreadsheet, has a range of scientific functions that can be utilized for the modeling, analysis, and presentation of quantitative data. This text provides a straightforward guide to using these functions of Microsoft Excel, guiding the reader from basic principles through to more complicated areas such as formulae, charts, curve-fitting, equation solving, integration, macros, statistical functions, and presenting quantitative data. Content written specifically for the requirements of science and engineering students and professionals working with Microsoft Excel, brought fully up to date with Microsoft Office release of Excel 2016. Features of Excel 2016 are illustrated through a wide variety of examples based on technical contexts, demonstrating the use of the program for analysis and presentation of experimental results. Where appropriate, demonstrates the differences between the PC and Mac versions of Excel. Includes many new end-of-chapter problems at varying levels of difficulty.

Award-winning cook Anna Jones blazes the trail again for how we all want to cook now: quick, sustainably and stylishly. The utilization of sensors, communications, and computer technologies to create greater efficiency in the generation, transmission, distribution, and consumption of electricity will enable better management of the electric power system. As the use of smart grid technologies grows, utilities will be able to automate meter reading and billing and consumers will be more aware of their energy usage and the associated costs. The results will require utilities and their suppliers to develop new business models, strategies, and processes. With an emphasis on reducing costs and improving return on

investment (ROI) for utilities, Smart Grids: Clouds, Communications, Open Source, and Automation explores the design and implementation of smart grid technologies, considering the benefits to consumers as well as businesses. Focusing on industrial applications, the text: Provides a state-of-the-art account of the smart grid Explains how smart grid technologies are currently being used Includes detailed examples and test cases for real-life implementation Discusses trade-offs associated with the utilization of smart grid technologies Describes smart grid simulation software and offers insight into the future of the smart grid The electric power grid is in the early stages of a sea of change. Nobody knows which business models will survive, but companies heeding the lessons found in Smart Grids: Clouds, Communications, Open Source, and Automation might just increase their chances for success.

AWS Cookbook

Stories, Shapes, Sauces, Recipes

A learner's guide to spreadsheets

Advanced Excel for Scientific Data Analysis

Wasted in Engineering

83 Hands-on S.T.E.A.M Experiments for Curious Kids!

2nd edition

Millions of users create and share Excel spreadsheets every day, but few go deeply enough to learn the techniques that will make their work much easier. There are many ways to take advantage of Excel's advanced capabilities without spending hours on advanced study. Excel Hacks provides more than 130 hacks -- clever tools, tips and techniques -- that will leapfrog your work beyond the ordinary. Now expanded to include Excel 2007, this resourceful, roll-up-your-sleeves guide gives you little known "backdoor" tricks for several Excel versions using different platforms and external applications. Think of this book as a toolbox. When a need arises or a problem occurs, you can simply use the right tool for the job. Hacks are grouped into chapters so you can find what you need quickly, including ways to: Reduce workbook and worksheet frustration -- manage how users interact with worksheets, find and highlight information, and deal with debris and corruption. Analyze and manage data -- extend and automate these features, moving beyond the limited tasks they were designed to perform. Hack names -- learn not only how to name cells and ranges, but also how to create names that adapt to the data in your spreadsheet. Get the most out of PivotTables -- avoid the problems that make them frustrating and learn how to extend them. Create customized charts -- tweak and combine Excel's built-in charting capabilities. Hack formulas and functions -- subjects range from moving formulas around to dealing with

datatype issues to improving recalculation time. Make the most of macros -- including ways to manage them and use them to extend other features. Use the enhanced capabilities of Microsoft Office 2007 to combine Excel with Word, Access, and Outlook. You can either browse through the book or read it from cover to cover, studying the procedures and scripts to learn more about Excel. However you use it, Excel Hacks will help you increase productivity and give you hours of "hacking" enjoyment along the way.

Given the improved analytical capabilities of Excel, scientists and engineers everywhere are using it--instead of FORTRAN--to solve problems. And why not? Excel is installed on millions of computers, features a rich set of built-in analyses tools, and includes an integrated Visual Basic for Applications (VBA) programming language. No wonder it's today's computing tool of choice. Chances are you already use Excel to perform some fairly routine calculations. Now the Excel Scientific and Engineering Cookbook shows you how to leverage Excel to perform more complex calculations, too, calculations that once fell in the domain of specialized tools. It does so by putting a smorgasbord of data analysis techniques right at your fingertips. The book shows how to perform these useful tasks and others: Use Excel and VBA in general Import data from a variety of sources Analyze data Perform calculations Visualize the results for interpretation and presentation Use Excel to solve specific science and engineering problems Wherever possible, the Excel Scientific and Engineering Cookbook draws on real-world examples from a range of scientific disciplines such as biology, chemistry, and physics. This way, you'll be better prepared to solve the problems you face in your everyday scientific or engineering tasks. High on practicality and low on theory, this quick, look-up reference provides instant solutions, or "recipes," to problems both basic and advanced. And like other books in O'Reilly's popular Cookbook format, each recipe also includes a discussion on how and why it works. As a result, you can take comfort in knowing that complete, practical answers are a mere page-flip away.

The definitive, bestselling text in the field of change management, Making Sense of Change Management provides a thorough overview of the subject for both students and professionals. Along with explaining the theory of change management, it comprehensively covers the models, tools, and techniques of successful change management so organizations can adapt to tough market conditions and succeed by changing their strategies, structures, boundaries, mindsets, leadership behaviours and of course their expectations of the people who work within them. This completely revised and updated 4th edition of Making Sense of Change Management includes more international examples and case studies, emerging new thinking and practice in the area of cultural change and a new chapter on the interrelationship with project management (PM) and change

management. It also covers complexity models, agile approaches, and stakeholder management along with cultural sensitivity and what to do when cultures collide. Making Sense of Change Management remains essential reading for anyone who is currently part of, or leading, a change initiative. Online supporting resources include lecture slides, making this an ideal textbook for MBA or graduate students focusing on leading or managing change.

Maximize your Excel experience with VBA Excel 2019 Power Programming with VBA is fully updated to cover all the latest tools and tricks of Excel 2019. Encompassing an analysis of Excel application development and a complete introduction to Visual Basic for Applications (VBA), this comprehensive book presents all of the techniques you need to develop both large and small Excel applications. Over 800 pages of tips, tricks, and best practices shed light on key topics, such as the Excel interface, file formats, enhanced interactivity with other Office applications, and improved collaboration features. Understanding how to leverage VBA to improve your Excel programming skills can enhance the quality of deliverables that you produce—and can help you take your career to the next level. Explore fully updated content that offers comprehensive coverage through over 900 pages of tips, tricks, and techniques Leverage templates and worksheets that put your new knowledge in action, and reinforce the skills introduced in the text Improve your capabilities regarding Excel programming with VBA, unlocking more of your potential in the office Excel 2019 Power Programming with VBA is a fundamental resource for intermediate to advanced users who want to polish their skills regarding spreadsheet applications using VBA.

**Numerical Methods for Chemical Engineers Using Excel, VBA, and MATLAB
(Windows and Mac)**

Tips & Tools for Streamlining Your Spreadsheets

Data Wrangling with Pandas, NumPy, and IPython

Excel by Example

Programming for Computations - Python

KSAP 2015 Abstracts

Get complete instructions for manipulating, processing, cleaning, and crunching datasets in Python. Updated for Python 3.6, the second edition of this hands-on guide is packed with practical case studies that show you how to solve a broad set of data analysis problems effectively. You'll learn the latest versions of pandas, NumPy, IPython, and Jupyter in the process. Written by Wes McKinney, the creator of the Python pandas project, this book is a practical, modern introduction to data science tools in Python. It's ideal for analysts new to Python and for Python programmers

new to data science and scientific computing. Data files and related material are available on GitHub. Use the IPython shell and Jupyter notebook for exploratory computing Learn basic and advanced features in NumPy (Numerical Python) Get started with data analysis tools in the pandas library Use flexible tools to load, clean, transform, merge, and reshape data Create informative visualizations with matplotlib Apply the pandas groupby facility to slice, dice, and summarize datasets Analyze and manipulate regular and irregular time series data Learn how to solve real-world data analysis problems with thorough, detailed examples

Learn to fully harness the power of Microsoft Excel® to perform scientific and engineering calculations With this text as your guide, you can significantly enhance Microsoft Excel's® capabilities to execute the calculations needed to solve a variety of chemical, biochemical, physical, engineering, biological, and medicinal problems. The text begins with two chapters that introduce you to Excel's Visual Basic for Applications (VBA) programming language, which allows you to expand Excel's® capabilities, although you can still use the text without learning VBA. Following the author's step-by-step instructions, here are just a few of the calculations you learn to perform: Use worksheet functions to work with matrices Find roots of equations and solve systems of simultaneous equations Solve ordinary differential equations and partial differential equations Perform linear and non-linear regression Use random numbers and the Monte Carlo method This text is loaded with examples ranging from very basic to highly sophisticated solutions. More than 100 end-of-chapter problems help you test and put your knowledge to practice solving real-world problems. Answers and explanatory notes for most of the problems are provided in an appendix. The CD-ROM that accompanies this text provides several useful features: All the spreadsheets, charts, and VBA code needed to perform the examples from the text Solutions to most of the end-of-chapter problems An add-in workbook with more than twenty custom functions This text does not require any background in programming, so it is suitable for both undergraduate and graduate courses. Moreover, practitioners in science and engineering will find that this guide saves hours of time by enabling them to perform most of their calculations with one familiar spreadsheet package

Learn to fully harness the power of Microsoft Excel(r) to perform scientific and engineering calculations With this text as your guide, you can significantly enhance Microsoft Excel's(r) capabilities to execute the calculations needed to solve a variety of chemical, biochemical, physical, engineering, biological, and medicinal problems. The text begins with two chapters that introduce you to Excel's Visual Basic for Applications (VBA) programming language, which allows you to expand Excel's(r) capabilities, although you can still use the text without learning VBA. Following the author's step-by-step instructions, here are just a few of the calculations you learn to perform: * Use worksheet functions to work with matrices * Find roots of equations and solve systems of simultaneous equations * Solve ordinary differential equations and partial differential equations * Perform linear and non-linear regression * Use random numbers and the Monte Carlo method This text is loaded with examples ranging from very basic to highly sophisticated solutions. More than 100 end-of-chapter problems help you test and put your knowledge to practice solving real-world problems. Answers and explanatory notes for most of the problems are provided in an appendix. The CD-ROM that accompanies this text provides several useful features: * All the spreadsheets, charts, and VBA code needed to perform the examples from the text * Solutions to most of the end-of-chapter problems * An add-in workbook with more than twenty custom functions This text does not require any background in programming, so it is suitable for both undergraduate and graduate courses. Moreover, practitioners in science and engineering will find that this guide saves hours of time by enabling them to perform most of their calculations with one familiar spreadsheet package.

Inhaltsangabe:Einleitung: Design for Manufacturing (DfM) und Design for Test (DfT) sind der Schlüssel zur wirtschaftlichen Halbleiterproduktion der neuen Technologiegenerationen. Damit ein schnelles Ramp-up mit anschließend hoher Ausbeute erreicht werden kann, ist neben einer großen Robustheit gegenüber Fertigungstoleranzen zunehmend die rasche Identifizierung und Beseitigung der Ausfallursachen

gefertigter Chips erforderlich. In der Halbleiterindustrie werden Testergebnisse fehlerhafter Chips in bestimmte Kategorien unterteilt, um Design und Fertigung eine Rückmeldung über die Ausfallursachen zu geben. Fortschreitende Strukturverkleinerungen begünstigen allerdings zunehmend neue Fehlerursachen und haben daher durch längere Lernprozesse eine geringere Ausbeute während der Ramp-up-Phase zur Folge. Um dieser Entwicklung standhalten zu können, ist ein engeres Zusammenwirken zwischen Design, Test und Fertigung unter besonderer Beachtung von DfM und DfT notwendig. Das Design muss eine hohe Ausbeute erlauben und der Chip muss effizient zu testen sein. Damit man genauere Informationen über die Fehlerursache eines defekten Chips erhält, müssen die bisherigen Testmöglichkeiten z.B. um adaptives Testen erweitert werden. Fehlerhafte Netze können bereits durch die Scan-Diagnose lokalisiert werden. Durch die Diagnose sehr vieler Chips können statistische Häufungen von Fehlerorten gefunden werden, wodurch relevante Stichproben für eine physikalische Fehleranalyse selektiert werden können. Die Scan-Diagnose ermöglicht also eine detaillierte Analyse mit geringem Testaufwand. Neben der Verbesserung der Testmöglichkeiten ist es von großer Bedeutung, bereits vor der Ramp-up-Phase eines neuen Produkts das Design in seiner erwarteten Ausbeute beurteilen zu können. Random-Yield-Modelle wie die Critical-Area-Analyse stellen bereits gute Prognosen, jedoch gibt es in der Realität oft Abweichungen von dieser Beurteilung. Zur Untersuchung von möglichen Einflüssen auf die Ausbeute wird in dieser Masterarbeit eine neue Methodik entwickelt, durch welche der Zusammenhang zwischen Testausfällen, Critical-Area-Analyse und systematischen Fehlern besser erklärt werden kann. Es wird ein Software-Werkzeug entwickelt, welches die unterschiedlichen Formate aus Testergebnissen und Designdaten auf eine einheitliche Form bringen kann. Mit dem Werkzeug werden die Daten eines aktuellen Chips analysiert und auf deren Zusammenhang bewertet. Nach einer kurzen Einführung in die Grundlagen der [...]

Adding Excel to Your Analysis Arsenal

75 Python automation ideas for web scraping, data wrangling, and processing Excel, reports, emails, and more, 2nd Edition

Python Automation Cookbook

Excel for Engineers and Scientists

A learner's guide to big numbers, statistics, and good decisions

Pollution

Digital Signal Processing: A Practical Guide for Engineers and Scientists

'Engineering padicha nalla future - If you study engineering, you will have a good future.' This is a claim often repeated to children and teenagers by parents and teachers in many parts of India. But only those who have gone through an engineering college life know that it's not completely true. There is a difference between calling yourself as an engineering graduate and an engineer. India produces millions of engineering graduates like you and me but only very few of us are actual engineers. Many of us just graduate with an engineering degree, with an artistic dream in mind. What do you think is the difference between engineers in many countries around the world and engineers from India? In other countries, if David Pascal studied electrical engineering in college, few years later you can find him working as an electrical engineer. In India, if Ram Krishnamurthy studied electrical engineering, few years later you can find him working in a completely irrelevant field like software coding, banking, photography and even movie directing. This book is not about the few engineering students in your class who love engineering. I don't hate them. In fact, I am very jealous that they study what they love. This book is about the majority of engineering graduates whose lives are wasted in

engineering and is intended to tell you why you should make an attempt in pursuing your real passion, instead of being suffocated under the weight of an engineering degree. This is a story of India's Youth. Welcome to India, the land of Wasted Engineers.

Die ganze Welt steckt voller Daten, und Ihre Aufgabe ist es, sie sinnvoll zu deuten. Aber wo sollen Sie beginnen? Datenanalyse von Kopf bis Fuß zeigt Ihnen den Weg durch den Dschungel: Sie lernen, wie Sie Ihre Daten in Excel organisieren, sie mit R weiter bearbeiten, mithilfe von Streudiagrammen und Histogrammen aussagekräftige Muster erkennen, mit Heuristiken Schlüsse ziehen, durch gezielte Experimente und das Überprüfen von Hypothesen zukünftige Entwicklungen vorhersagen können - und wie Sie all Ihre Ergebnisse überzeugend visualisieren und präsentieren. Vielleicht sind Sie Produktmanager und wollen die Marktfähigkeit eines neuen Produkts bestimmen. Oder Sie möchten als Marketingleiterin den Erfolg einer Werbekampagne messen. Vielleicht arbeiten Sie auch im Vertrieb und müssen Verkaufszahlen präsentieren, oder Sie sind selbständig und für alle diese datenintensiven Aufgaben zuständig. Ganz gleich - Datenanalyse von Kopf bis Fuß zeigt Ihnen, wie Sie Ihre Daten zu Ihrem wertvollsten Arbeitsmittel machen.

In addition to its thorough coverage of DSP design and programming techniques, Smith also covers the operation and usage of DSP chips. He uses Analog Devices' popular DSP chip family as design examples. Covers all major DSP topics Full of insider information and shortcuts Basic techniques and algorithms explained without complex numbers

Get a firm grip on the core processes including browser automation, web scraping, Word, Excel, and GUI automation with Python 3.8 and higher Key Features Automate integral business processes such as report generation, email marketing, and lead generation Explore automated code testing and Python's growth in data science and AI automation in three new chapters Understand techniques to extract information and generate appealing graphs, and reports with Matplotlib Book Description In this updated and extended version of Python Automation Cookbook, each chapter now comprises the newest recipes and is revised to align with Python 3.8 and higher. The book includes three new chapters that focus on using Python for test automation, machine learning projects, and for working with messy data. This edition will enable you to develop a sharp understanding of the fundamentals required to automate business processes through real-world tasks, such as developing your first web scraping application, analyzing information to generate spreadsheet reports with graphs, and communicating with automatically generated emails. Once you grasp the basics, you will acquire the practical knowledge to create stunning graphs and charts using Matplotlib, generate rich graphics with relevant information, automate marketing campaigns, build machine learning projects, and execute debugging techniques. By the end of this book, you will be proficient in identifying monotonous tasks and resolving process inefficiencies to produce superior and reliable systems. What you will learn Learn data wrangling with Python and Pandas for your data science and AI projects Automate tasks such as text classification, email filtering, and web scraping with Python Use Matplotlib to generate a variety of stunning graphs, charts, and maps Automate a range of report generation tasks, from sending SMS and email campaigns to creating templates, adding images in Word, and even encrypting PDFs Master web scraping and web crawling of popular file formats and directories with tools like BeautifulSoup Build cool projects such as a Telegram bot for your marketing campaign, a reader from a news RSS feed, and a machine learning model to classify emails to the

correct department based on their content Create fire-and-forget automation tasks by writing cron jobs, log files, and regexes with Python scripting Who this book is for Python Automation Cookbook - Second Edition is for developers, data enthusiasts or anyone who wants to automate monotonous manual tasks related to business processes such as finance, sales, and HR, among others. Working knowledge of Python is all you need to get started with this book.

Recipes for Mastering Python 3

Head First Excel

Good Housekeeping Amazing Science

I Excel in Math, So Do You!

A Learner's Guide to Big Numbers, Statistics, and Good Decisions

Soil Organic Carbon Mapping Cookbook

Physics for Game Developers

The author shares the "secrets" of his successful learning in Math with readers in simple and clear terms. It takes the readers to discover the study techniques needed in Math and unleash their individual potential. It is the perfect book for students, parents, educators and anyone who wants to enhance their Math learning. If you want to excel in Mathematics, this is the book for you!

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.

If you create, manage, operate, or configure systems running in the cloud, you're a cloud engineer--even if you work as a system administrator, software developer, data scientist, or site reliability engineer. With this book, professionals from around the world provide valuable insight into today's cloud engineering role. These concise articles explore the

entire cloud computing experience, including fundamentals, architecture, and migration. You'll delve into security and compliance, operations and reliability, and software development. And examine networking, organizational culture, and more. You're sure to find 1, 2, or 97 things that inspire you to dig deeper and expand your own career. "Three Keys to Making the Right Multicloud Decisions," Brendan O'Leary "Serverless Bad Practices," Manases Jesus Galindo Bello "Failing a Cloud Migration," Lee Atchison "Treat Your Cloud Environment as If It Were On Premises," Iyana Garry "What Is Toil, and Why Are SREs Obsessed with It?", Zachary Nickens "Lean QA: The QA Evolving in the DevOps World," Theresa Neate "How Economies of Scale Work in the Cloud," Jon Moore "The Cloud Is Not About the Cloud," Ken Corless "Data Gravity: The Importance of Data Management in the Cloud," Geoff Hughes "Even in the Cloud, the Network Is the Foundation," David Murray "Cloud Engineering Is About Culture, Not Containers," Holly Cummins

Awesome S.T.E.A.M.-based science experiments you can do right at home with easy-to-find materials designed for maximum enjoyment, learning, and discovery for kids ages 8 to 12 Join the experts at the Good Housekeeping Institute Labs and explore the science you interact with every day. Using the scientific method, you'll tap into your own super-powers of logic and deduction to go on a science adventure. The engaging experiments exemplify core concepts and range from quick and simple to the more complex. Each one includes clear step-by-step instructions and color photos that demonstrate the process and end result. Plus, secondary experiments encourage young readers to build on what they've discovered. A "Mystery Solved!" explanation of the science at work helps your budding scientist understand the outcomes of each experiment. These super-fun, hands-on experiments include:

- Building a solar oven and making s'mores
- Creating an active rain cloud in a jar
- Using static electricity created with a balloon to power a light bulb
- Growing your own vegetables—from scraps!
- Investigating the forces that make an object sink or float

• And so much more! Bursting with more than 200 color photos and incredible facts, this sturdy hard cover is the perfect gift for any aspiring biologist, chemist, physicist, engineer, and mathematician!

Chemical Engineering, Volume 3

A Complete Guide to the Models, Tools and Techniques of Organizational Change

Story of India's Youth

Entwicklung einer Methode zur Untersuchung der Zusammenhänge zwischen kritischen

Designgrößen und Ausfällen bei der Produktion digitaler Logikchips

Excel Scientific and Engineering Cookbook

Chemical and Biochemical Reactors and Process Control

Over 70 recipes for creating, engineering, and transforming features to build machine learning models

SHORTLISTED FOR THE ANDRE SIMONS FOOD & DRINK BOOK AWARDS Sometimes cookbooks aren't just cookbooks.

Exquisitely designed, beautifully written and featuring mouth-watering photography, this gorgeous tome from Guardian columnist and award-winning food writer Rachel Roddy is perfect for pasta lovers! Guardian columnist and award-winning food writer Rachel Roddy condenses everything she has learned about Italy's favourite food in a practical, easy-to-use and mouth-watering collection of 100 essential pasta and pasta sauce recipes. Along with the recipes are short essays that weave together the history, culture and the everyday life of pasta shapes from the tip to the toe of Italy. There is pasta made with water, and pasta with egg; shapes made by hand and those rolled a by machine; the long and the short; the rolled and the stretched; the twisted and the stuffed; the fresh and the dried. The A-Z of Pasta tells you how to match pasta shapes with sauces, and how to serve them. The recipes range from the familiar - pesto, ragù and carbonara - to the unfamiliar (but thrilling). This is glorious celebration of pasta from one of the best food writers of our time. _____ 'I love this book. Every story is a little gem - a beautiful hymn to each curl, twist and ribbon of pasta.' Nigel Slater 'Rachel Roddy describing how to boil potatoes would inspire me. There are very, very few who possess such a supremely uncluttered culinary voice as hers, just now' Simon Hopkinson 'Rachel Roddy's writing is as absorbing as any novel' Russell Norman, author of Polpo 'Roddy is a gifted storyteller, and a masterful hand with simple ingredients' Guardian Cook

The publication of the third edition of 'Chemical Engineering Volume 3' marks the completion of the re-orientation of the basic material contained in the first three volumes of the series. Volume 3 is devoted to reaction engineering (both chemical and biochemical), together with measurement and process control. This text is designed for students, graduate and postgraduate, of chemical engineering.

For many researchers, Python is a first-class tool mainly because of its libraries for storing, manipulating, and gaining insight from data. Several resources exist for individual pieces of this data science stack, but only with the Python Data Science Handbook do you get them all—IPython, NumPy, Pandas, Matplotlib, Scikit-Learn, and other related tools. Working scientists and data crunchers familiar with reading and writing Python code will find this comprehensive desk reference ideal for tackling

day-to-day issues: manipulating, transforming, and cleaning data; visualizing different types of data; and using data to build statistical or machine learning models. Quite simply, this is the must-have reference for scientific computing in Python. With this handbook, you'll learn how to use:

- IPython and Jupyter: provide computational environments for data scientists using Python
- NumPy: includes the ndarray for efficient storage and manipulation of dense data arrays in Python
- Pandas: features the DataFrame for efficient storage and manipulation of labeled/columnar data in Python
- Matplotlib: includes capabilities for a flexible range of data visualizations in Python
- Scikit-Learn: for efficient and clean Python implementations of the most important and established machine learning algorithms

In this basic introduction, the author aims to help engineers and scientists to understand and use Excel in their fields. The book is interactive and designed to be used in conjunction with a computer, to provide a hands-on learning experience.

Sensitivity Analysis in Practice

Liengme's Guide to Excel 2016 for Scientists and Engineers

Numerical Methods

Engineering and Scientific Solutions

Practical Volumetric Analysis

A Microsoft Excel Cookbook for Electronics Engineers

Essential Tools for Working with Data

Extract accurate information from data to train and improve machine learning models using NumPy, SciPy, pandas, and scikit-learn libraries

Key Features Discover solutions for feature generation, feature extraction, and feature selection Uncover the end-to-end feature engineering process across continuous, discrete, and unstructured datasets Implement modern feature extraction techniques using Python's pandas, scikit-learn, SciPy and NumPy libraries

Book 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 learn

- Simplify your feature engineering pipelines with powerful Python packages
- Get to grips with imputing missing values
- Encode categorical variables with a wide set of techniques
- Extract insights from text quickly and effortlessly
- Develop features from transactional data and time series data
- Derive new features by combining existing variables
- Understand how to transform, discretize, and scale your variables
- Create informative variables from date and time

Who 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.

Excel is by far the most widely distributed data analysis software but few users are aware of its full powers. *Advanced Excel For Scientific Data Analysis* takes off from where most books dealing with scientific applications of Excel end. It focuses on three areas-least squares, Fourier transformation, and digital simulation-and illustrates these with extensive examples, often taken from the literature. It also includes and describes a number of sample macros and functions to facilitate common data analysis tasks. These macros and functions are provided in uncompiled, computer-readable, easily modifiable form; readers can therefore use them as starting points for making their own personalized data analysis tools. Detailed descriptions and sample applications of standard and specialized uses of least squares for fitting data to a variety of functions, including resolving multi-component spectra; standard processes such as calibration curves and extrapolation; custom macros for general "error" propagation, standard deviations of Solver results, weighted or equidistant least squares, Gram-Schmidt orthogonalization, Fourier transformation, convolution and deconvolution, time-frequency analysis, and data mapping. There are also worked examples showing how to use centering, the covariance matrix, imprecision contours, and Wiener filtering and custom functions for bisections, Lagrange interpolation, Euler and Runge-Kutta integration.

The accompanying CD-ROM features ready-to-run, customizable Excel worksheets derived from the book examples, which will be useful tools to add to any electronics engineer's spreadsheet toolbox. Engineers are looking for any and all means to increase their efficiency and add to their "bag of design tricks." Just about every electronics engineer uses Excel but most feel that the program has many more features to offer, if they only knew what they were! The Excel documentation is voluminous and electronics engineers don't have the time to read it all and sift through looking for those features that are directly applicable to their jobs and figure out how to use them. This book does that task for them-pulls out those features that they need to know about and shows them how to make use of them in specific design examples that they can then tailor to their own design needs.-

Do you use Excel for simple lists, but get confused and frustrated when it comes to actually doing something useful with all that data? Stop tearing your hair out: *Head First Excel* helps you painlessly move from spreadsheet dabbler to savvy user. Whether you're completely new to Excel or an experienced user looking to make the program work better for you, this book will help you incorporate Excel into every aspect of your workflow, from a scratch pad for data-based brainstorming to exploratory analysis with PivotTables, optimizing outcomes with Goal Seek, and presenting your conclusions with sophisticated data visualizations. Organize and clearly present information in a spreadsheet Make calculations across a number of worksheets Change your point of view with sorting, zooming, and filtering Manipulate numerical data to extract and use just what you need Leverage Excel as a grid-based layout program Write formulas for optimal functionality Nest formulas for more complex operations Create sophisticated data visualizations with charts and graphs Use Goal Seek to optimize possible outcomes based on different assumptions Create summaries from large data sets for exploratory data analysis with PivotTables We think your time is too valuable to waste struggling with new concepts. Using the latest research in cognitive science and learning theory to craft a multi-sensory learning experience, *Head First Excel* uses a visually rich format designed for the way your brain works, rather than a text-heavy approach that will put you to sleep.

Science, math, and code for realistic effects

A Gentle Introduction to Numerical Simulations with Python

Making Sense of Change Management

Excel 2019 Power Programming with VBA

Excel Hacks

One: Pot, Pan, Planet: A greener way to cook for you, your family and the planet

A Guide to Assessing Scientific Models

In its most advanced form, Integrated Computational Materials Engineering (ICME) holistically integrates manufacturing simulation, advanced materials models and component performance analysis. This volume contains thirty-five papers presented at the 1st World Congress on Integrated Computational Materials Engineering. Modeling processing-microstructure relationships, modeling microstructure-property relationships, and the role of ICME in graduate and undergraduate education are discussed. Ideal as a primary text for engineering students, this book motivates a wider understanding of the advantages and limitations offered by the various computational (and coordinated experimental) tools of this field.

While teaching the Numerical Methods for Engineers course over the last 15 years, the author found a need for a new textbook, one that was less elementary, provided applications and problems better suited for chemical engineers, and contained instruction in Visual Basic® for Applications (VBA). This led to six years of developing teaching notes that have been enhanced to create the current textbook, Numerical Methods for Chemical Engineers Using Excel®, VBA, and MATLAB®. Focusing on Excel gives the advantage of it being generally available, since it is present on every computer—PC and Mac—that has Microsoft Office installed. The VBA programming environment comes with Excel and greatly enhances the capabilities of Excel spreadsheets. While there is no perfect programming system, teaching this combination offers knowledge in a widely available program that is commonly used (Excel) as well as a popular academic software package (MATLAB). Chapters cover nonlinear equations, Visual Basic, linear algebra, ordinary differential equations, regression analysis, partial differential equations, and mathematical programming methods. Each chapter contains examples that show in detail how a particular numerical method or programming methodology can be implemented in Excel and/or VBA (or MATLAB in chapter 10). Most of the examples and problems presented in the text are related to chemical and biomolecular engineering and cover a broad range of application areas including thermodynamics, fluid flow, heat transfer, mass transfer, reaction kinetics, reactor design, process design, and process

control. The chapters feature "Did You Know" boxes, used to remind readers of Excel features. They also contain end-of-chapter exercises, with solutions provided.

Proficiency in volumetric analysis is a key skill for chemists in research and industry. This work seeks to 'modernise' approaches to volumetric analysis, by relating practical work to vocationally-relevant topics, whilst maintaining the rigor required for satisfactory performance in practical examinations. Written by someone who has experienced both teaching and working as a research chemist, this up to date textbook on practical volumetric analysis will provide the theoretical chemistry associated with volumetric analysis supported by a selection of practicals. There will also be suggestions for a number of investigations which could form the basis of project-based learning or coursework, particularly for those pursuing vocational science courses. Section 1 will consist of three theory chapters, covering preliminary concepts (fundamentals of chemistry, essential quantitative chemistry and concepts of statistics). Section 2 will be divided into four chapters, based on the four main divisions of volumetric analysis (acid-base titrimetry, redox titrimetry, precipitation titrimetry and complexometric titrimetry). Each chapter in this section will start with a review of essential theory, with worked examples and illustrations where appropriate, and end with a selection of laboratory practicals. Each chapter will also contain a number of open-ended investigations, for use in project-based learning or coursework. Section 3 will address more advanced topics and be divided into four chapters (volumetric analysis in industry, further statistical concepts, mathematics of titrimetry and advanced titrimetry). Practical work and suggestions for further reading will be included where appropriate. Practical Volumetric Analysis is suitable for students taking modules in introductory chemistry and analytical chemistry on undergraduate degree courses as well as providing guidance to non-specialists teaching chemistry.

KSAP 2015 Abstracts 2015

Smart Grids

Python Cookbook

MITRE Systems Engineering Guide

Clouds, Communications, Open Source, and Automation

An A-Z of Pasta

Python Data Science Handbook

This practical guide provides over 100 self-contained recipes to help you creatively solve issues you may encounter in your AWS cloud endeavors. If you're comfortable with rudimentary scripting and general cloud concepts, this cookbook will give you what you need to both address foundational tasks and create high-level capabilities. AWS Cookbook provides real-world examples that incorporate best practices. Each recipe includes code that you can safely execute in a sandbox AWS account to ensure that it works. From there, you can customize the code to help construct your application or fix your specific existing problem. Recipes also include a discussion that explains the approach and provides context. This cookbook takes you beyond theory, providing the nuts and bolts you need to successfully build on AWS. You'll find recipes for: Organizing multiple accounts for enterprise deployments Locking down S3 buckets Analyzing IAM roles Autoscaling a containerized service Summarizing news articles Standing up a virtual call center Creating a chatbot that can pull answers from a knowledge repository Automating security group rule monitoring, looking for rogue traffic flows And more.

Today, interpreting data is a critical decision-making factor for businesses and organizations. If your job requires you to manage and analyze all kinds of data, turn to Head First Data Analysis, where you'll quickly learn how to collect and organize data, sort the distractions from the truth, find meaningful patterns, draw conclusions, predict the future, and present your findings to others. Whether you're a product developer researching the market viability of a new product or service, a marketing manager gauging or predicting the effectiveness of a campaign, a salesperson who needs data to support product presentations, or a lone entrepreneur responsible for all of these data-intensive functions and more, the unique approach in Head First Data Analysis is by far the most efficient way to learn what you need to know to convert raw data into a vital business tool. You'll learn how to: Determine which data sources to use for collecting information Assess data quality and distinguish signal from noise Build basic data models to illuminate patterns, and assimilate new information into the models Cope with ambiguous information Design experiments to test hypotheses and draw conclusions Use segmentation to organize your data within discrete market groups Visualize data distributions to

reveal new relationships and persuade others Predict the future with sampling and probability models Clean your data to make it useful Communicate the results of your analysis to your audience Using the latest research in cognitive science and learning theory to craft a multi-sensory learning experience, Head First Data Analysis uses a visually rich format designed for the way your brain works, not a text-heavy approach that puts you to sleep.

The rapid deterioration of the environment in many countries around the world, or of segments and aspects of the environment in specific locations, made it necessary that immediate - even if only short term - solutions be found to as many of these problems as possible. Nevertheless, in the long run, long range and long term solutions must be found taking into account the effects of one country or region on another as well as of the inter-action between the different types of pollution over extended periods of time. It was the purpose of the Tel Aviv meeting on Pollution: Engineering and Scientific Solutions, to address presently known or foreseeable "environmental insults;" that is, to focus on those aspects of air, noise, land, water or any other environmental quality for which there already exist engineering, scientific, legal or other solutions. Consequently, people from all disciplines which are relevant to environmental problems and their solutions were invited to participate.

If you want to enrich your game's experience with physics-based realism, the expanded edition of this classic book details physics principles applicable to game development. You'll learn about collisions, explosions, sound, projectiles, and other effects used in games on Wii, PlayStation, Xbox, smartphones, and tablets. You'll also get a handle on how to take advantage of various sensors such as accelerometers and optical tracking devices. Authors David Bourg and Bryan Bywalec show you how to develop your own solutions to a variety of problems by providing technical background, formulas, and a few code examples. This updated book is indispensable whether you work alone or as part of a team. Refresh your knowledge of classical mechanics, including kinematics, force, kinetics, and collision response Explore rigid body dynamics, using real-time 2D and 3D simulations to handle rotation and inertia Apply concepts to real-world problems: model the behavior of

boats, airplanes, cars, and sports balls Enhance your games with digital physics, using accelerometers, touch screens, GPS, optical tracking devices, and 3D displays Capture 3D sound effects with the OpenAL audio API

97 Things Every Cloud Engineer Should Know

Excel for Scientists and Engineers

Python for Data Analysis

Proceedings of the 1st World Congress on Integrated Computational Materials Engineering (ICME)

Datenanalyse von Kopf bis Fuß

Python Feature Engineering Cookbook

Head First Data Analysis

A guide for data managers and analyzers shares guidelines for identifying patterns, predicting future outcomes, and presenting findings to others; drawing on current research in cognitive science and learning theory while covering such additional topics as assessing data quality, handling ambiguous information, and organizing data within market groups. Original.

This book presents computer programming as a key method for solving mathematical problems. There are two versions of the book, one for MATLAB and one for Python. The book was inspired by the Springer book TCSE 6: A Primer on Scientific Programming with Python (by Langtangen), but the style is more accessible and concise, in keeping with the needs of engineering students. The book outlines the shortest possible path from no previous experience with programming to a set of skills that allows the students to write simple programs for solving common mathematical problems with numerical methods in engineering and science courses. The emphasis is on generic algorithms, clean design of programs, use of functions, and automatic tests for verification.

Sensitivity analysis should be considered a pre-requisite for statistical model building in any scientific discipline where modelling takes place. For a non-expert, choosing the method of analysis for their model is complex, and depends on a number of factors. This book guides the non-expert through their problem in order to enable them to choose and apply the most appropriate method. It offers a review of the state-of-the-art in sensitivity analysis, and is suitable for a wide range of practitioners. It is focussed on the use of SIMLAB – a widely distributed freely-available sensitivity analysis software package developed by the authors – for solving problems in sensitivity analysis of statistical models. Other key features: Provides an accessible overview of the current most widely used methods for sensitivity analysis. Opens with a detailed worked example to explain the motivation behind the book. Includes a range of examples to help illustrate the

concepts discussed. Focuses on implementation of the methods in the software SIMLAB - a freely-available sensitivity analysis software package developed by the authors. Contains a large number of references to sources for further reading. Authored by the leading authorities on sensitivity analysis.