Geoserver Beginner S Guide Packt

This is a tutorial style book that will teach usage of Python tools for GIS using simple practical examples and then show you how to build a complete mapping application from scratch. The book assumes basic knowledge of Python. No knowledge of Open Source GIS is required.Experienced Python developers who want to learn about geospatial concepts, work with geospatial data, solve spatial problems, and build map-based applications.This book will be useful those who want to get up to speed with Open Source GIS in order to build GIS applications or integrate Geo-Spatial features into their existing applications.

Write efficient GIS applications using PostGIS - from data creation to data consumption About This Book Learn how you can use PostGIS for spatial data analysis and manipulation Optimize your queries and build custom functionalities for your GIS application A comprehensive guide with hands-on examples to help you master PostGIS with ease Who This Book Is For If you are a GIS developer or analyst who wants to master PostGIS to build efficient, scalable GIS applications, this book is for you. If you want to conduct advanced analysis of spatial data, this book will also help you. The book assumes that you have a working installation of PostGIS in place, and have working experience with PostgreSQL. What You Will Learn Refresh your knowledge of the PostGIS concepts and spatial databases Solve spatial problems with the use of SQL in real-world scenarios Practical walkthroughs of application development examples using Postgis, GeoServer and OpenLayers. Extract, transform and load your spatial data Expose data directly or through web services. Consume your data in both desktop and web clients In Detail PostGIS is open source extension onf PostgreSQL object-relational database system that allows GIS objects to be stored and allows querying for information and location services. The aim of this book is to help you master the functionalities offered by PostGIS- from data creation, analysis and output, to ETL and live edits. The book begins with an overview of the key concepts related to spatial database systems and how it applies to Spatial RMDS. You will learn to load different formats into your Postgres instance, investigate the spatial nature of your raster data, and finally export it using built-in functionalities or 3th party tools for backup or representational purposes. Through the course of this book, you will be presented with many examples on how to interact with the database using JavaScript and Node.js. Sample web-based applications interacting with backend PostGIS will also be presented throughout the book, so you can get comfortable with the modern ways of consuming and modifying your spatial data. Style and approach This book is a comprehensive guide covering all the concepts you need to master PostGIS. Packed with hands-on examples, tips and tricks, even the most advanced concepts are explained in a very easy-to-follow manner. Every chapter in the book does not only focus on how each task

is performed, but also why.

An easy-to-use guide, full of hands-on recipes for manipulating spatial data in a PostGIS database. Each topic is explained and placed in context, and for the more inquisitive, there are more details of the concepts used. If you are a web developer or a software architect, especially in location-based companies, and want to expand the range of techniques you are using with PostGIS, then this book is for you. You should have some prior experience with PostgreSQL database and spatial concepts.

This volume gathers selected, peer-reviewed original contributions presented at the International Conference on Computational Vision and Bio-inspired Computing (ICCVBIC) conference which was held in Coimbatore, India, on November 29-30, 2018. The works included here offer a rich and diverse sampling of recent developments in the fields of Computational Vision, Fuzzy, Image Processing and Bio-inspired Computing. The topics covered include computer vision; cryptography and digital privacy; machine learning and artificial neural networks; genetic algorithms and computational intelligence; the Internet of Things; and biometric systems, to name but a few. The applications discussed range from security, healthcare and epidemic control to urban computing, agriculture and robotics. In this book, researchers, graduate students and professionals will find innovative solutions to real-world problems in industry and society as a whole, together with inspirations for further research.

Master the techniques and sophisticated analytics used to construct Spark-based solutions that scale to deliver production-grade data science products About This Book Develop and apply advanced analytical techniques with Spark Learn how to tell a compelling story with data science using Spark's ecosystem Explore data at scale and work with cutting edge data science methods Who This Book Is For This book is for those who have beginner-level familiarity with the Spark architecture and data science applications, especially those who are looking for a challenge and want to learn cutting edge techniques. This book assumes working knowledge of data science, common machine learning methods, and popular data science tools, and assumes you have previously run proof of concept studies and built prototypes. What You Will Learn Learn the design patterns that integrate Spark into industrialized data science pipelines See how commercial data scientists design scalable code and reusable code for data science services Explore cutting edge data science methods so that you can study trends and causality Discover advanced programming techniques using RDD and the DataFrame and Dataset APIs Find out how Spark can be used as a universal ingestion engine tool and as a web scraper Practice the implementation of advanced topics in graph processing, such as community detection and contact chaining Get to know the best practices when performing Extended Exploratory Data Analysis, commonly used in commercial data science teams Study advanced Spark concepts, solution design patterns, and integration architectures

Demonstrate powerful data science pipelines In Detail Data science seeks to transform the world using data, and this is typically achieved through disrupting and changing real processes in real industries. In order to operate at this level you need to build data science solutions of substance –solutions that solve real problems. Spark has emerged as the big data platform of choice for data scientists due to its speed, scalability, and easy-to-use APIs. This book deep dives into using Spark to deliver production-grade data science solutions. This process is demonstrated by exploring the construction of a sophisticated global news analysis service that uses Spark to generate continuous geopolitical and current affairs insights.You will learn all about the core Spark APIs and take a comprehensive tour of advanced libraries, including Spark SQL, Spark Streaming, MLlib, and more. You will be introduced to advanced techniques and methods that will help you to construct commercial-grade data products. Focusing on a sequence of tutorials that deliver a working news intelligence service, you will learn about advanced Spark architectures, how to work with geographic data in Spark, and how to tune Spark algorithms so they scale linearly. Style and approach This is an advanced guide for those with beginner-level familiarity with the Spark architecture and working with Data Science applications. Mastering Spark for Data Science is a practical tutorial that uses core Spark APIs and takes a deep dive into advanced libraries including: Spark SQL, visual streaming, and MLlib. This book expands on titles like: Machine Learning with Spark and Learning Spark. It is the next learning curve for those comfortable with Spark and looking to improve their skills.

Create, optimize, and deploy stunning cross-browser web maps with the OpenLayers JavaScript web mapping library.

The latest guide to using QGIS 2.14 to create great maps and perform geoprocessing tasks with ease About This Book Learn how to work with various data and create beautiful maps using this easy-to-follow guide. Give a touch of professionalism to your maps both for functionality and look and feel with the help of this practical guide. A progressive hands-on guide that builds on a geo-spatial data and adds more reactive maps by using geometry tools. Who This Book Is For This book is great for users, developers, and consultants who know the basic functions and processes of GIS and want to learn to use QGIS to analyze geospatial data and create rich mapping applications. If you want to take advantage of the wide range of functionalities that QGIS offers, then this is the book for you. What You Will Learn Install QGIS and get familiar with the user interface Load vector and raster data from files, databases, and web services Create, visualize, and edit spatial data Perform geoprocessing tasks and automate them Create advanced cartographic outputs Design great print maps Expand QGIS using Python In Detail QGIS is a user-friendly open source geographic information system (GIS) that runs on Linux, Unix, Mac OS X, and Windows. The popularity of open source geographic information systems and QGIS in particular has been growing rapidly over the last few years. Learning QGIS Third Edition is a practical, hands-on guide updated for QGIS 2.14 that provides you with clear, step-by-step exercises to help you apply

your GIS knowledge to QGIS. Through clear, practical exercises, this book will introduce you to working with QGIS quickly and painlessly. This book takes you from installing and configuring QGIS to handling spatial data to creating great maps. You will learn how to load and visualize existing spatial data and create data from scratch. You will get to know important plugins, perform common geoprocessing and spatial analysis tasks and automate them with Processing. We will cover how to achieve great cartographic output and print maps. Finally, you will learn how to extend QGIS using Python and even create your own plugin. Style and approach A step by step approach to explain concepts of Geospatial map with the help of real life examples

Open access to information of geographic places and spatial relationships provides an essential part of the analytical processing of spatial data. Access to connected geospatial programs allows for improvement in teaching and understanding science, technology, engineering, and mathematics. Emerging Trends in Open Source Geographic Information Systems provides emerging research on the applications of free and open software in geographic information systems in various fields of study. While highlighting topics such as data warehousing, hydrological modeling, and software packages, this publication explores the assessment and techniques of open software functionality and interfaces. This book is an important resource for professionals, researchers, academicians, and students seeking current research on the different types and uses of data and data analysis in geographic information systems.

This book is aimed at those who want to learn how to set up an Elastix Unified Communications Server without losing ground on Unified Communications and Voice over IP.

Explore the robust features of Python to create real-world ArcGIS applications through exciting, hands-on projects About This Book Get to grips with the big world of Python add-ins and wxPython in GUI development to implement their features in your application Integrate advanced Python libraries, ArcPy mapping, and data access module techniques to develop a mapping application Construct a top-notch intermediate-to-advanced project by accessing ArcGIS Server and ArcGIS Online resources through the ArcGIS REST API using a project-based approach Who This Book Is For If you have prior experience building simple apps with ArcGIS and now have a fancy for developing a more challenging and complex desktop application in ArcGIS, then this book is ideal for you. What You Will Learn Automate the creation of creative output data visualizations including maps, charts, and graphs Explore ways to use the ArcPy Mapping module and Data-driven Pages to automate the creation of map books in your own project Develop applications that use the Plotly platform and library to create stunning charts and graphs that can be integrated into ArcGIS Desktop Build tools that access REST services and download data to a local geodatabase Design, build, and integrate advanced GUIs with wxPython and ArcGIS Desktop in ArcGIS Get clued up about constructing applications that export data to Google Earth Pro to automate time-consuming complex processes Maximize the access of ArcGIS Server and ArcGIS Online using the ArcGIS REST API with Python In Detail This book is an immersive guide to take your ArcGIS Desktop

application development skills to the next level It starts off by providing detailed description and examples of how to create ArcGIS Desktop Python toolboxes that will serve as containers for many of the applications that you will build. We provide several practical projects that involve building a local area/community map and extracting wildfire data. You will then learn how to build tools that can access data from ArcGIS Server using the ArcGIS REST API. Furthermore, we deal with the integration of additional open source Python libraries into your applications, which will help you chart and graph advanced GUI development; read and write JSON, CSV, and XML format data sources; write outputs to Google Earth Pro, and more. Along the way, you will be introduced to advanced ArcPy Mapping and ArcPy Data Access module techniques and use data-driven Pages to automate the creation of map books. Finally, you will learn advanced techniques to work with video and social media feeds. By the end of the book, you will have your own desktop application without having spent too much time learning sophisticated theory. Style and approach This is an easy-to-follow, project-based guide that guides you through the whole ArcGIS theme with practical, real-world examples and a systematic approach.

Geocomputation is the use of software and computing power to solve complex spatial problems. It is gaining increasing importance in the era of the ‘big data’ revolution, of ‘smart cities’, of crowdsourced data, and of associated applications for viewing and managing data geographically - like Google Maps. This student focused book: Provides a selection of practical examples of geocomputational techniques and ‘hot topics’ written by world leading practitioners. Integrates supporting materials in each chapter, such as code and data, enabling readers to work through the examples themselves. Chapters provide highly applied and practical discussions of: Visualisation and exploratory spatial data analysis Space time modelling Spatial algorithms Spatial regression and statistics Enabling interactions through the use of neogeography All chapters are uniform in design and each includes an introduction, case studies, conclusions - drawing together the generalities of the introduction and specific findings from the case study application – and guidance for further reading. This accessible text has been specifically designed for those readers who are new to Geocomputation as an area of research, showing how complex real-world problems can be solved through the integration of technology, data, and geocomputational methods. This is the applied primer for Geocomputation in the social sciences.

Step-by-step instructions are included and the needs of a beginner are totally satisfied by the book. The book consists of plenty of examples with accompanying screenshots and code for an easy learning curve. You are a web developer with knowledge of server side scripting, and have experience with installing applications on the server. You have a desire to want more than Google maps, by offering dynamically built maps on your site with your latest geospatial data stored in MySQL, PostGIS, MsSQL or Oracle. If this is the case, this book is meant for you.

If you are a web developer working with geospatial concepts and mapping APIs, and you want to learn Leaflet to create mapping solutions, this book is for you. You need to have a basic knowledge of working with JavaScript and performing web application development.

Over 35 recipes to design and implement uniquely styled maps using the Mapbox platform About This Book Design and develop beautifully styled maps using TileMill, MapBox Studio, and CartoCSS Get to grips with the mapbox.js and Leaflet to create visually stunning web and mobile applications An easy-to-follow, quick reference guide to integrate powerful APIs and services like Foursquare, Fusion Tables, Geoserver, and CartoDB to populate your maps Who This Book Is For If you are a web developer seeking for GIS expertise on how to create, style, and publish interactive and unique styled maps, then this book is for you. Basic knowledge of programming and javascripts is assumed. What You Will Learn Get accustomed to the MapBox Editor to visually style your maps Learn everything about CartoCSS, and how it will help you fine tune your styled maps Use MapBox Studio and Tilemill to generate your own tiles and vector maps Publish your maps using a variety of technologies like node.js, PHP, and Geoserver Integrate with third party APIs and services to populate your maps with public or private data Create many different map visualization styles like choropleth and heat maps, add interactivity, and even learn how to animate data over time Work with many different data formats and external services to create robust maps Learn to use MapBox GL to create a mobile application In Detail Maps are an essential element in today's location aware applications. Right from displaying earth surface information to creating thematic maps displaying plethora of information, most of the developers lack the necessary knowledge to create customizable maps with combination of various tools and libraries. The MapBox platform is one such platform which offers all the tools and API required to create and publish a totally customizable map. Starting with building your first map with the online MapBox Editor, we will take you all the way to building advanced web and mobile applications with totally customizable map styles. Through the course of chapters we'll learn CartoCSS styling language and understand the various components of MapBox platform and their corresponding JavaScript API. In the initial few chapters we will dive deeper into the TileMill and MapBox Studio components of MapBox and use them to generate custom styled map tiles and vector maps. Furthermore, we will publish these custom maps using PHP, node.js and third party tools like Geoserver. We'll also learn to create different visualizations and map styles like a choropleth map, a heat map and add user interactivity using a UFTGrid. Moving on, we dive into advanced concepts and focus on integration with third party services like Foursquare, Google FusionTables, CartoDB, and Torque to help you populate and even animate your maps. In the final chapter we'll learn to use the Mapbox SDK to create and publish interactive maps for the iOS platform. By the end of this book, you will learn about MapBox GL and how to create a fully functional, location-aware mobile app, using the maps styles created in the recipes. Style and approach An easy-to-use recipe driven book that will not just serve code samples, but also explains all the theory and concepts required to fully understand each recipe.

GeoServer Beginner's GuidePackt Publishing Ltd

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.

QGIS is a leading user-friendly, cross-platform, open source, desktop geographic information system (GIS). It provides many useful capabilities and features and their number is continuously growing. More and more private users and companies choose QGIS as their primary GIS software because it is very easy to use, feature-rich, extensible, and has a big and constantly growing community. This book guides you from QGIS installation through data loading, and preparation to performing most common GIS analyses. You will perform different types of GIS analyses including density, visibility, and suitability analysis on practical, real-world data. Finally, you will learn how to become more productive and automate your everyday work with the help of the QGIS Processing framework and by developing your own Python plugins. By the end of this book, you will have all the necessary knowledge about handling and analyzing spatial data.

This step-by-step guide will teach you how to use GeoServer to build custom and interactive maps using your data.About This Book* Exploit the power of GeoServer to provide agile, flexible, and low -cost community projects* Share real-time maps quickly* Boost your map server's performance using the power and flexibility of GeoServerWho This Book Is ForIf you are a web developer with knowledge of server side scripting, have experience in installing applications on the server, and want to go beyond Google Maps by offering dynamically built maps on your site with your latest geospatial data stored in MySQL, PostGIS, MySQL, or Oracle, this is the book for you.What You Will Learn* Install GeoServer quickly* Access dynamic real-time geospatial data that you can easily integrate into your own web-based application* Create custom styles for lines, points, and polygons for great-looking maps* Command GeoServer remotely using REST* Tune your GeoServer instance for performance* Move GeoServer into production* Learn advanced topics to extend GeoServer's capabilitiesIn DetailGeoServer is an opensource server written in Java that allows users to share, process, and edit geospatial data. This book will guide you through the new features and improvements of GeoServer and will help you get started with it. GeoServer Beginner's Guide gives you the impetus to build custom maps using your data without the need for costly commercial software licenses and restrictions. Even if you do not have prior GIS knowledge, you will be able to make interactive maps after reading this book.You will install GeoServer, access your data from a database, and apply style points, lines, polygons, and labels to impress site visitors with real-time maps. Then you follow a step-by-step guide that installs GeoServer in minutes. You will explore the web-based administrative interface to connect to backend data stores such as PostGIS, and Oracle. Going ahead, you can display your data on web-based interactive maps, use style lines, points, polygons, and embed images to visualize this data for your web visitors. You will walk away from this book with a working application ready for production.After reading GeoServer Beginner's Guide, you will be able to build beautiful custom maps on your website using your geospatial data.Style and approachStep-by-step instructions are included and the needs of a beginner are totally satisfied by the book. The book consists of plenty of examples with accompanying screenshots and code for an easy

learning curve.

If you are a GIS professional who intends to explore advanced techniques and get more out of GeoServer deployment rather than simply delivering good looking maps, then this book is for you.

This book is ideal for GIS experts, developers, and system administrators who have had a first glance at GeoServer and who are eager to explore all its features in order to configure professional map servers. Basic knowledge of GIS and GeoServer is required.

The wide range of challenges in studying Earth system dynamics due to uncertainties in climate change and complex interference from human activities is creating difficulties in managing land and water resources and ensuring their sustainable use. Mapping, Monitoring, and Modeling Land and Water Resources brings together real-world case studies accurately surveyed and assessed through spatial modeling. The book focuses on the effectiveness of combining remote sensing, geographic information systems, and R. The use of open source software for different spatial modeling cases in various fields, along with the use of remote sensing and geographic information systems, will aid researchers, students, and practitioners to understand better the phenomena and the predictions by future analyses for problem-solving and decision-making.

This is a tutorial-style book that helps you to perform Geospatial and GIS analysis with Python and its tools/libraries. This book will first introduce various Python-related tools/packages in the initial chapters before moving towards practical usage, examples, and implementation in specialized kinds of Geospatial data analysis.This book is for anyone who wants to understand digital mapping and analysis and who uses Python or another scripting language for automation or crunching data manually.This book primarily targets Python developers, researchers, and analysts who want to perform Geospatial, modeling, and GIS analysis with Python.

This book gathers papers presented at the International Conference on Advanced Intelligent Systems for Sustainable Development (AI2SD-2018), which was held in Tangiers, Morocco on 12–14 July 2018. It highlights how advanced intelligent systems have successfully been used to develop tools and techniques for modeling, prediction and decision support in connection with the environment. Though chiefly intended for researchers and practitioners in advanced intelligent systems for sustainable development, the book will also be of interest to those working in environment and the Internet of Things, environment and big data analysis, summarization, prediction, remote sensing & geo-information, geophysics, marine and coastal environments, and sensor networks for environment services.

This book collects innovative research presented at the 19th Conference of the Association of Geographic Information Laboratories in Europe (AGILE) on Geographic Information Science, held in Helsinki, Finland in 2016.

Create and manage spatial data with PostGIS Key Features Import and export geographic data from the PostGIS database using the available tools Maintain, optimize, and fine-tune spatial data for long-term viability Utilize the parallel support functionality that was introduced in PostgreSQL 9.6 Book Description PostGIS is a spatial database that integrates the advanced storage and analysis of vector and raster data, and is remarkably flexible and powerful. PostGIS provides support for geographic objects to the PostgreSQL object-relational database and is currently the most popular open source spatial databases. If you want to explore the complete range of PostGIS techniques and expose related extensions, then this book is for you. This book is a comprehensive guide to PostGIS tools and concepts which are required to manage, manipulate, and analyze spatial data in PostGIS. It covers key spatial data manipulation tasks, explaining not only how each task is performed, but also why. It provides practical guidance allowing you to safely take advantage of the advanced technology in PostGIS in order

to simplify your spatial database administration tasks. Furthermore, you will learn to take advantage of basic and advanced vector, raster, and routing approaches along with the concepts of data maintenance, optimization, and performance, and will help you to integrate these into a large ecosystem of desktop and web tools. By the end, you will be armed with all the tools and instructions you need to both manage the spatial database system and make better decisions as your project's requirements evolve. What you will learn Import and export geographic data from the PostGIS database using the available tools Structure spatial data using the functionality provided by a combination of PostgreSQL and PostGIS Work with a set of PostGIS functions to perform basic and advanced vector analyses Connect PostGIS with Python Learn to use programming frameworks around PostGIS Maintain, optimize, and fine-tune spatial data for long-term viability Explore the 3D capabilities of PostGIS, including LiDAR point clouds and point clouds derived from Structure from Motion (SfM) techniques Distribute 3D models through the Web using the X3D standard Use PostGIS to develop powerful GIS web applications using Open Geospatial Consortium web standards Master PostGIS Raster Who this book is for This book is for developers who need some quick solutions for PostGIS. Prior knowledge of PostgreSQL and spatial concepts would be an added advantage.

Whether you are a hobbyist or a professional web developer, if you wish to use maps on your website, then this book is for you. A basic understanding of JavaScript will be helpful, but is not necessary. If you've never worked with maps before, this book will introduce you to some common mapping topics and will guide you through the OpenLayers library. Experienced developers can also use this book as a reference to OpenLayers 3 components and to further enhance their knowledge.

QGIS 3.4 is a user-friendly open source geographic information system (GIS) that runs on Linux, Unix, Mac OS X, and Windows. The book will take you on a journey from firing up QGIS for the first time to developing your own processing pathway. We’ll look at the fundamentals of GIS: data creation, data display, creating maps and spatial analysis.

Summary PostGIS in Action, Second Edition teaches readers of all levels to write spatial queries that solve real-world problems. It first gives you a background in vector-, raster-, and topology-based GIS and then quickly moves into analyzing, viewing, and mapping data. This second edition covers PostGIS 2.0 and 2.1 series, PostgreSQL 9.1, 9.2, and 9.3 features, and shows you how to integrate with other GIS tools. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Book Processing data tied to location and topology requires specialized know-how. PostGIS is a free spatial database extender for PostgreSQL, every bit as good as proprietary software. With it, you can easily create location-aware queries in just a few lines of SQL code and build the back end for a mapping, raster analysis, or routing application with minimal effort. PostGIS in Action, Second Edition teaches you to solve real-world geodata problems. It first gives you a background in vector-, raster-, and topology-based GIS and then quickly moves into analyzing, viewing, and mapping data. You'll learn how to optimize queries for maximum speed, simplify geometries for greater efficiency, and create custom functions for your own applications. You'll also learn how to apply your existing GIS knowledge to PostGIS and integrate with other GIS tools. Familiarity with relational database and GIS concepts is helpful but not required. What's Inside An introduction to spatial databases Geometry, geography, raster, and topology spatial types, functions, and queries Applying PostGIS to real-world problems Extending PostGIS to web and desktop applications Updated for PostGIS 2.x and PostgreSQL 9.x About the Authors Regina Obe and Leo Hsu are database consultants and authors. Regina is a member of the PostGIS core development team and the Project Steering Committee. Table of Contents PART 1 INTRODUCTION TO POSTGIS What is a spatial database? Spatial data types Spatial reference system considerations Working with real data Using PostGIS on the desktop Geometry and geography functions Raster functions PostGIS TIGER

geocoder Geometry relationships PART 2 PUTTING POSTGIS TO WORK Proximity analysis Geometry and geography processing Raster processing Building and using topologies Organizing spatial data Query performance tuning PART 3 USING POSTGIS WITH OTHER TOOLS Extending PostGIS with pgRouting and procedural languages Using PostGIS in web applications

Decision makers, such as government officials, need to better understand human activity in order to make informed decisions. With the ability to measure and explore geographic space through the use of geospatial intelligence data sources including imagery and mapping data, they are better able to measure factors affecting the human population. As a broad field of study, geospatial research has applications in a variety of fields including military science, environmental science, civil engineering, and space exploration. Geospatial Intelligence: Concepts, Methodologies, Tools, and Applications explores multidisciplinary applications of geographic information systems to describe, assess, and visually depict physical features and to gather data, information, and knowledge regarding human activity. Highlighting a range of topics such as geovisualization, spatial analysis, and landscape mapping, this multi-volume book is ideally designed for data scientists, engineers, government agencies, researchers, and graduate-level students in GIS programs.

If you are a GIS professional, a consultant, a student, or perhaps a fast learner who wants to go beyond the basics of QGIS, then this book is for you. It will prepare you to realize the full potential of QGIS.

Over 60 recipes to create GIS web applications with the open source JavaScript library.

Google Maps API Cookbook follows a fast-paced, high-level, structured cookbook approach, with minimal theory and an abundance of practical, real-world examples explained in a thorough yet concise manner to help you learn quickly and efficiently. Google Maps API Cookbook is for developers who wish to learn how to do anything from adding a simple embedded map to a website to developing complex GIS applications with the Google Maps JavaScript API. It is targeted at JavaScript developers who know how to get by but who are also seeking the immediacy of recipe-based advice.

This step-by-step guide will teach you how to use GeoServer to build custom and interactive maps using your data. About This Book Exploit the power of GeoServer to provide agile, flexible, and low -cost community projects Share real-time maps quickly Boost your map server's performance using the power and flexibility of GeoServer Who This Book Is For If you are a web developer with knowledge of server side scripting, have experience in installing applications on the server, and want to go beyond Google Maps by offering dynamically built maps on your site with your latest geospatial data stored in MySQL, PostGIS, MySQL, or Oracle, this is the book for you. What You Will Learn Install GeoServer quickly Access dynamic real-time geospatial data that you can easily integrate into your own web-based application Create custom styles for lines, points, and polygons for great-looking maps Command GeoServer remotely using REST Tune your GeoServer instance for performance Move GeoServer into production Learn advanced topics to extend GeoServer's capabilities In Detail GeoServer is an opensource server written in Java that allows users to share, process, and edit geospatial data. This book will guide you through the new features and improvements of GeoServer and will help you get started with it. GeoServer Beginner's Guide gives you the impetus to build custom maps using your data without the need for costly commercial software licenses and restrictions. Even if you do not have prior GIS knowledge, you will be able to make interactive maps after reading this book. You will install GeoServer, access your data from a database, and apply style points, lines, polygons, and labels to impress site visitors with real-time maps. Then you follow a step-by-step guide that installs GeoServer in minutes. You will explore the web-based administrative interface to connect to backend data stores such as PostGIS, and Oracle. Going ahead, you can display your data on web-based interactive maps, use style lines, points, polygons, and embed images to

visualize this data for your web visitors. You will walk away from this book with a working application ready for production. After reading GeoServer Beginner's Guide, you will be able to build beautiful custom maps on your website using your geospatial data. Style and approach Step-by-step instructions are included and the needs of a beginner are totally satisfied by the book. The book consists of plenty of examples with accompanying screenshots and code for an easy learning curve.

This book gathers papers presented at the International Conference on Advanced Intelligent Systems for Sustainable Development (AI2SD-2018), which was held in Tangiers, Morocco on 12–14 July 2018. Highlighting the latest research and findings in the field of agriculture, it provides new solutions, efficient tools and techniques that draw on modern technologies to increase agricultural productivity. In addition, it provides a critical overview of the status quo, shares new propositions, and outlines future perspectives in agriculture.

Leverage the power of React and Node to build complete web applications in pure JavaScriptAbout This Book*Combine the ease of React in the front end with the power of Node at the back end to build robust apps in pure JavaScript*Get your hands dirty by building on an entire application throughout the course of the book*Become productive and save precious time by adopting isomorphic JavaScript programming techniquesWho This Book Is ForThis book is ideally meant for intermediate web developers who are interested in building isomorphic applications using JavaScript.What You Will Learn*Build on the client side with the awesomeness of React*Style your application effectively*Render the server side using React*Implement a GraphQL server based on Node, Express, and SQL*Fetch application data using Relay*Build an isomorphic router to use in the application*Deploy your application to a cloud host*Secure your application with a solid token-based authentication systemIn DetailThe latest trend in web development, Isomorphic JavaScript, allows developers to overcome some of the shortcomings of single page applications by running the same code on the server as well as on the client. Leading this trend is React, which when coupled with Node, allows developers to build JavaScript apps that are much faster and more SEO-friendly than single page applications.This book will begin by showing you how to develop front-end components in React. It will then show you how to bind these components to the back-end web services that leverage the power of Node. You'll see how web services can be used with React code to offload and maintain the application logic. By the end of this book, you will be able to save a significant amount of development time by learning to combine React and Node to code fast, scalable apps in pure JavaScript.

This book is written in a helpful, practical style with numerous hands-on recipes and chapters to help you save time and effort by using Python to power ArcGIS to create shortcuts, scripts, tools, and customizations."Programming ArcGIS 10.1 with Python Cookbook" is written for GIS professionals who wish to revolutionize their ArcGIS workflow with Python. Basic Python or programming knowledge is essential(?).

Learning German Has Never Been Easier! Whether you are studying the language in school, planning a trip to Germany or Austria, or trying to learn the basics of the language closest to English, German Made Simple is the perfect book for any self-learner. Void of all nonessentials and refreshingly easy to understand, German Made Simple includes: • Basics of German grammar • Modern German vocabulary • German pronunciation guide • German reading exercises • German economic information • Common German expressions • Review exercises • Complete answer key • German-English dictionary

A web map is an interactive display of geographic information, in the form of a web page, that you can use to tell stories and answer questions. Web maps have numerous advantages over traditional mapping techniques, such as the ability to display up-to-date or even real-time information, easy distribution to end users, and highly customized interactive content. Introduction to Web

Mapping teaches you how to develop online interactive web maps and web mapping applications, using standard web technologies: HTML, CSS and JavaScript. The core technologies are introduced in Chapters 1-5, focusing on the specific aspects which are most relevant to web mapping. Chapters 6-13 then implement the material and demonstrate key concepts for building and publishing interactive web maps.

Create, analyze, and map your spatial data with ArcGIS for Desktop About This Book Learn how to use ArcGIS for Desktop to create and manage geographic data, perform vector and raster analysis, design maps, and share your results Solve real-world problems and share your valuable results using the powerful instruments of ArcGIS for Desktop Step-by-step tutorials cover the main editing, analyzing, and mapping tools in ArcGIS for Desktop Who This Book Is For This book is ideal for those who want to learn how to use the most important component of Esri's ArcGIS platform, ArcGIS for Desktop. It would be helpful to have a bit of familiarity with the basic concepts of GIS. Even if you have no prior GIS experience, this book will get you up and running quickly. What You Will Learn Understand the functionality of ArcGIS for Desktop applications Explore coordinate reference system concepts and work with different map projections Create, populate, and document a file geodatabase Manage, create, and edit feature shapes and attributes Built automate analysis workfl ows with ModelBuilder Apply basic principles of map design to create good-looking maps Analyze raster and three-dimensional data with the Spatial Analyst and 3D Analyst extensions In Detail ArcGIS for Desktop is one of the main components of the ESRI ArcGIS platform used to support decision making and solve real-world mapping problems. Learning ArcGIS for Desktop is a tutorial-based guide that provides a practical experience for those who are interested in start working with ArcGIS. The first five chapters cover the basic concepts of working with the File Geodatabase, as well as editing and symbolizing geospatial data. Then, the book focuses on planning and performing spatial analysis on vector and raster data using the geoprocessing and modeling tools. Finally, the basic principles of cartography design will be used to create a quality map that presents the information that resulted from the spatial analysis previously performed. To keep you learning throughout the chapters, all exercises have partial and final results stored in the dataset that accompanies the book. Finally, the book offers more than it promises by using the ArcGIS Online component in the tutorials as source of background data and for results sharing Style and approach This easy-to-follow guide is full of hands-on exercises that use open and free geospatial datasets. The basic features of the ArcGIS for Desktop are explained in a step-by-step style.

Applied Spatial Data Analysis with R, second edition, is divided into two basic parts, the first presenting R packages, functions, classes and methods for handling spatial data. This part is of interest to users who need to access and visualise spatial data. Data import and export for many file formats for spatial data are covered in detail, as is the interface between R and the open source GRASS GIS and the handling of spatio-temporal data. The second part showcases more specialised kinds of spatial data analysis, including spatial point pattern analysis, interpolation and geostatistics, areal data analysis and disease mapping. The coverage of methods of spatial data analysis ranges from standard techniques to new developments, and the examples used are largely taken from the spatial statistics literature. All the examples can be run using R contributed packages available from the CRAN website,

with code and additional data sets from the book's own website. Compared to the first edition, the second edition covers the more systematic approach towards handling spatial data in R, as well as a number of important and widely used CRAN packages that have appeared since the first edition. This book will be of interest to researchers who intend to use R to handle, visualise, and analyse spatial data. It will also be of interest to spatial data analysts who do not use R, but who are interested in practical aspects of implementing software for spatial data analysis. It is a suitable companion book for introductory spatial statistics courses and for applied methods courses in a wide range of subjects using spatial data, including human and physical geography, geographical information science and geoinformatics, the environmental sciences, ecology, public health and disease control, economics, public administration and political science. The book has a website where complete code examples, data sets, and other support material may be found: http://www.asdar-book.org. The authors have taken part in writing and maintaining software for spatial data handling and analysis with R in concert since 2003.

Create powerful applications with the most robust open source web mapping library using this advanced guide About This Book Develop responsive and platform-independent web mapping applications with OpenLayers 3 Learn the key points of creating great applications with native JavaScript through the step-by-step examples Master the use of the library, from compiling custom builds to developing a complete WebGIS application Who This Book Is For This book is intended for front-end developers with basic understanding of JavaScript and GIS concepts, and preferably for those who are familiar with the fundamentals of OpenLayers 3. You might have never used OpenLayers 3 as a seasoned JavaScript developer. If this is the case and you are eager to learn web mapping, this book will definitely set you on the right track. What You Will Learn Use the advanced functionality of the OpenLayers 3 library effectively Implement the library in your application, shaping it to your needs Manage layers and the layer stack dynamically Create not only stunning but also accurate thematic maps Extend OpenLayers 3 with your own custom classes Develop mobile-friendly web mapping applications Make stunning effects with canvas manipulation, or visualize point clouds with WebGL Integrate third-party applications, and create custom builds that completely satisfy your needs In Detail OpenLayers 3 allows you to create stunning web mapping and WebGIS applications. It uses modern, cutting edge browser technologies. It is written with Closure Library, enabling you to build browser-independent applications without painful debugging ceremonies, which even have some limited fallback options for older browsers. With this guide, you will be introduced to the world of advanced web mapping and WebGIS. First, you will be introduced to the advanced features and functionalities available in OpenLayers 3. Next, you will be taken through the key points of creating custom applications with OpenLayers 3. You will then learn how to create the web mapping application of yours (or your company's) dream with this open source, expense-free, yet very powerful library. We'll also show you how to make amazing looking thematic maps and create great effects with canvas manipulation. By the end of this book, you will have a strong command of web mapping and will be well on your way to creating amazing applications using OpenLayers 3. Style and approach This is an advanced guide packed with comprehensive examples, and it concentrates on the advanced parts of OpenLayers 3 and JavaScript. It intentionally skips the basic and well-known methodologies, but discusses the

hard-to-understand ones in great detail.