# Interactive Web Based Data Visualization With Plotly And Shiny Chapman Hall Crc

Data visualization is a powerful tool for communicating information and insights from data. Interactive web-based data visualization allows users to explore and interact with data in a way that is not possible with static visualizations. This makes it an ideal tool for data exploration, analysis, and communication.

There are a number of different tools available for creating interactive web-based data visualizations. Two of the most popular are Plotly and Shiny. Plotly is a JavaScript library that allows you to create interactive graphs and charts. Shiny is an R package that allows you to create interactive web applications.
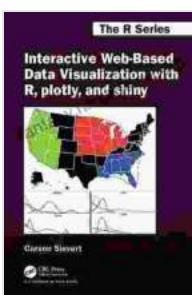
Interactive Web-Based Data Visualization with R, plotly, and shiny (Chapman & Hall/CRC The R Series)

by Carson Sievert

★★★★☆ 4.6 out of 5

Language	: English
File size	: 8000 KB
Text-to-Speech	: Enabled
Screen Reader	: Supported
Enhanced typesetting	: Enabled
Print length	: 414 pages

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In this article, we will show you how to use Plotly and Shiny to create an interactive web-based data visualization. We will start by introducing the

basics of Plotly and Shiny. Then, we will walk through a step-by-step example of how to create an interactive web-based data visualization using Plotly and Shiny.

Basics of Plotly

Plotly is a JavaScript library that allows you to create interactive graphs and charts. Plotly graphs are created using a declarative syntax, which makes them easy to create and customize. Plotly graphs are also responsive, which means that they will adjust to the size of the browser window.

Plotly supports a wide variety of graph types, including line charts, bar charts, scatter plots, and 3D graphs. Plotly graphs can also be customized with a variety of options, such as colors, fonts, and axes.

Basics of Shiny

Shiny is an R package that allows you to create interactive web applications. Shiny applications are created using a modular syntax, which makes them easy to develop and maintain. Shiny applications can be deployed to a web server, where they can be accessed by users from anywhere in the world.

Shiny applications can be used to create a wide variety of interactive data visualizations. For example, you can use Shiny to create interactive dashboards, reports, and maps. Shiny applications can also be used to collect data from users.

Step-by-Step Example

In this section, we will walk through a step-by-step example of how to create an interactive web-based data visualization using Plotly and Shiny.

We will create a simple line chart that shows the daily closing prices of the S&P 500 index.

Step 1: Import the Necessary Libraries

The first step is to import the necessary libraries. We will need the `plotly` and `shiny` libraries.

library(plotly) library(shiny)

Step 2: Load the Data

The next step is to load the data. We will use the `Quandl` library to load the daily closing prices of the S&P 500 index.

library(Quandl) sp500 Step 3: Create the Plotly Graph

The next step is to create the Plotly graph. We will use the `plot_ly()` function to create a line chart of the daily closing prices of the S&P 500 index.

p Step 4: Create the Shiny Application

The next step is to create the Shiny application. We will use the `shinyUI()` and `shinyServer()` functions to create a Shiny application that displays the Plotly graph.

ui Step 5: Run the Shiny Application

The final step is to run the Shiny application. We will use the `runApp()` function to run the Shiny application.

runApp()

This will open the Shiny application in a web browser. You can now interact with the visualization by zooming, panning, and hovering over the data points.

In this article, we have shown you how to use Plotly and Shiny to create an interactive web-based data visualization. We started by introducing the basics of Plotly and Shiny. Then, we walked through a step-by-step example of how to create an interactive web-based data visualization using Plotly and Shiny.

Interactive web-based data visualization is a powerful tool for communicating information and insights from data. By using Plotly and Shiny, you can create interactive data visualizations that are easy to use and understand.
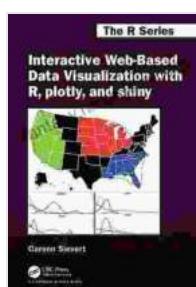
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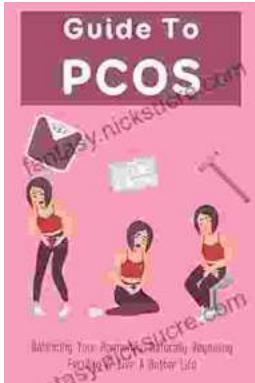
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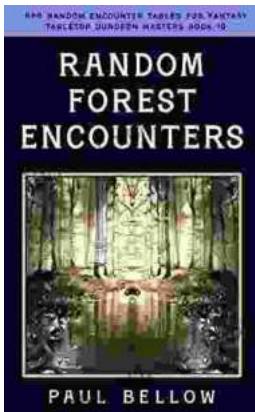
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