

1. Record Nr.	UNINA9910463294103321
Autore	Saquib Nazmus
Titolo	Mathematica data visualization : create and prototype interactive data visualizations using Mathematica // Nazmus Saquib
Pubbl/distr/stampa	Birmingham, [England] : , : Packt Publishing, , 2014 ©2014
ISBN	1-78328-300-9
Descrizione fisica	1 online resource (146 p.)
Collana	Community Experience Distilled
Disciplina	510.28553
Soggetti	Mathematica (Computer program language) Mathematica (Computer file) Mathematics - Data processing Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	Cover; Copyright; Credits; About the Author; About the Reviewers; www.PacktPub.com; Table of Contents; Preface; Chapter 1: Visualization as a Tool to Understand Data; The importance of visualization; Types of datasets; Tables; Scalar fields; Time series; Graphs; Text; Cartographic data; Mathematica as a tool for visualization; Getting started with Mathematica; Creating and selecting cells; Evaluating a cell; Suppressing output from a cell; Cell formatting; Commenting; Aborting evaluation; Upcoming chapters; Further reading; Summary; Chapter 2: Dissecting Data Using Mathematica Data structures and core languages Introducing lists; Nested lists; Matrices; Constructing lists programmatically; Accessing elements from a list; Applying set operations on lists; Functions and conditionals; Declaring and using functions; Conditionals; Further core language; Data importing and basic plots; Importing data into Mathematica; SetDirectory[] and NotebookDirectory[]; Loading the dataset; Basic plotting functions; ListPlot; Styling our plots; Plot legends; 3D point plots; Log plots; Further reading; Summary; Chapter 3: Time Series and Scientific Visualization Periodic patterns in time series Sector charts; Simulating Internet

activity; SectorChart and its options; Interactive visualization of financial data; The DateListPlot function; Adding interactivity - preliminaries; Intermission - Graphics and Show; Adding interactivity - Dynamic and Refresh; Isocontour and molecular visualization; Introduction to isocontours; Example project - protein molecule visualization; Loading and visualizing the protein molecule; Preparing the isocontour plots; Adding interactivity - manipulate; Isosurface and styling

Thinking like a visualization scientist - isovalue analysis  
Further reading; Summary; Chapter 4: Statistical and Information Visualization; Statistical visualization; The swiss bank notes dataset; Histograms and charts; Histogram; PairedHistogram; Histogram3D; PieChart; BubbleChart; Choosing appropriate plots; A glimpse of high-dimensional data; Similarity maps; Projecting information to low dimensions; Visualizing genuine and counterfeit clusters; Similarity map for smaller datasets; Things that can (and will) go wrong; Text visualization; A modified word cloud; Cleaning the data  
The basic algorithm  
Code and explanation; Graphs and networks; A basic graph visualization; Representing graphs in Mathematica; Visualizing the Les Miserables network; Highlighting centrality measures; Other graph layouts; 3D layouts; Chord diagrams; Code and explanation; Tweaking the visualization; Further reading; Summary; Chapter 5: Maps and Aesthetics; Map visualization; The GeoGraphics package; A map of our current location; Plotting a path on the map; Interactivity in GeoGraphics; Anatomy of a map visualization engine; The visual interface; Code and explanation  
Aesthetics in visualization

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## Sommario/riassunto

If you are planning to create data analysis and visualization tools in the context of science, engineering, economics, or social science, then this book is for you. With this book, you will become a visualization expert, in a short time, using Mathematica.

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