

Undocumented Matlab

unbelievable features; unbelievable quality; unbelievable cost effectiveness; unbelievable service

MATLAB DATA VISUALIZATION

COURSE OUTLINE



1. Visualizing data in Matlab

- a. Comparison of Matlab visualization methods
- b. Trade-off considerations
- c. General design principles

2. Displaying data in graphs

- a. Comparison of 2D, 2.5D and 3D graphs
- b. Customizing graphs
- c. Using the plot editor tool
- d. Colormaps and colorbars
- e. Plot annotations and data tips
- f. Legends
- g. Controlling zoom, pan, lighting, rotation
- h. Patches and transparency
- i. Using NaNs as a plotting technique
- j. Extracting data from existing plots
- k. Displaying multiple figure plots
- l. Interactive vs. programmatic control
- m. Exporting figures & plots
- n. Generating an m-file to recreate a graph

3. Handle Graphics

- a. Graphic handles in Matlab
- b. The inspector tool
- c. Figure, axes and plot properties
- d. Manipulating graphic handles

4. Images and movies

- a. Loading and displaying images
- b. Image manipulations
- c. Animating graphics
- d. Creating and displaying movies

5. Introduction to Matlab GUI

- a. Using GUIDE
- b. Creating a simple GUI
- c. Customizing uicontrols
- d. Callback event handling
- e. Updating plots and GUI in run-time (+performance considerations)

6. Where next? – topics and resources for further learning

Summary

A 1 or 2 day advanced Matlab course.

You will learn:

- alternative methods for presenting data and analysis results in Matlab
- design principles for graphs and GUI
- how to use different Matlab graph types
- how to create simple Matlab GUIs
- how to create and display images and movies
- how to manipulate and customize graphs and GUI
- how to store and reuse graphs and GUI

In the 2-day course, the topics will be expanded and a sample program will be analysed as a classroom exercise project.

Target audience

Matlab users with some experience using Matlab, who wish to improve their program's report quality and effectiveness.

Very basic familiarity with the Matlab environment is assumed. Programming experience is not necessary.