PRAGMATIC data
services

The difference between successful and unsuccessful companies is whether they are utilizing data and insights effectively to make business and technical decisions. Our expert-led data courses are designed to help organizations leverage data to drive business outcomes through high-impact training. With our experiential-learning based courses, business and data professionals come together to collaborate effectively on business objectives and execute a seamless plan so your most valuable data gets the attention it deserves.

Applied Data Visualization

Foundational Data Course

Course Timeframe

4-week part-time course. *2 lectures per week.*

Course Delivery

Live online or Self-paced Instructor Supported (Hybrid).
Office hours are included for course duration.

Who is This Course For?

- Individuals who have experience with manipulating data and python, and want to improve their ability to explore datasets and communicate the insights they discover by making effective data visualizations
- Business analysts, data analysts, market intelligence analysts, junior data scientists, other roles that work with data regularly

Who is This Course Not For?

Experienced data scientists, or other professionals with extensive data visualization experience

Prerequisites:

"Data Wrangling with Python" or experience programming in Python and doing data analysis with pandas

Course Learning Objectives

This course will show you how to turn data into effective visualizations both for yourself and for others. You will use plots to explore datasets to discover patterns and insights, and communicate those insights to both technical and non-technical audiences. Using visualization theory, you will design plots that convey insights clearly and concisely, in a way appropriate for your audience that they will understand quickly and easily. You will also combine several plots into a dashboard that enables its user to readily accomplish a task.

By The End of This Course, Students Will...

- Use plots to explore data sets and uncover patterns and insights, as well as communicate those insights to others
- Learn how to create different kinds of plots, and know when each is appropriate to use
- Gain an understanding of how a plot will be perceived to convey a message easily and with little effort from the viewer
- Assemble several plots into an effective dashboard

Use Case Examples

- Explore sales data to discover how different factors influence revenue, and find trends and patterns that provide insight into sales performance
- Design a plot using market data, making a complex trend clear and obvious to non-technical audiences to inform business decisions
- Streamline and optimize an existing plot to ensure its message is clear and understood immediately, to reduce the time and effort spent by those viewing it, and to reduce the risk of misinterpretations that could lead to mistakes
- Build an interactive plot that allows the operations team to explore production data and understand and discover what is working well and what is inefficient
- Create a dashboard using bank records and transaction data to monitor a business's financial health at a glance

Click here to learn more

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Foundational Data Course

An Eight-Module Structured Learning Path

Module 1: Intro to Visualizing Data

The fundamentals of visualization: types of data, basic plots, using visual cues to display data, visualization theory, using Plotly

Module 2: Exploratory Visualization: Relationships

Using visualizations to find relationships with a dataset and understand patterns in data. Utilizing scatter plots, bar charts, line plots, and heat maps, and when each is helpful

Module 3: Exploratory Visualization: Distributions

Going beyond simple summary statistics by using visualizations to explore the structure of a field of data. Using box plots, histograms, violin plots, contour plots, and pie charts to understand how data is distributed, and when to use each.

Module 4: Explanatory Visualization

Communicating data-driven insights and story to an audience using visualizations. Designing an appropriate visualization for an audience, using advanced aspects of Plotly to create a plot that makes the story easy to understand.

Module 5: Axes and Scales

Improving effectiveness of visualizations by adjusting axes, and adding trendlines, annotations, and other plot elements. Understanding when they are appropriate, and concerns and tradeoffs in using them.

Module 6: Less is More

Streamlining visualizations to create a clearer and more impactful plot, emphasizing the story and removing distractions. Understanding how visualization choices can cause distractions, emphasize different data stories, and how to employ that knowledge to optimize plots.

Module 7: Interactive Plots

Making plots that respond to user interactions to add depth and engagement, using Plotly's built in interactivity and external tools. Understand the benefits, drawbacks, and limitations, and when interactivity will improve user experience.

Module 8: Dashboards

Assemble many related plots into an effective dashboard, focused on aiding users in understanding a dataset and accomplishing a task quickly and easily. Following good dashboard design principles, use Plotly and Streamlit to make a user-friendly interactive dashboard website.

Includes hands on exercises and mini project

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