



Plotting Geospatial Data

FinTech
Lesson 6.3



Class Objectives

By the end of today's class, you will be able to:



Understand why plotting geospatial data is important.



Compose visualizations using hvPlot and GeoViews.



Construct map plot visualizations.



Interact with the geospatial visualizations created with hvPlot and GeoViews.

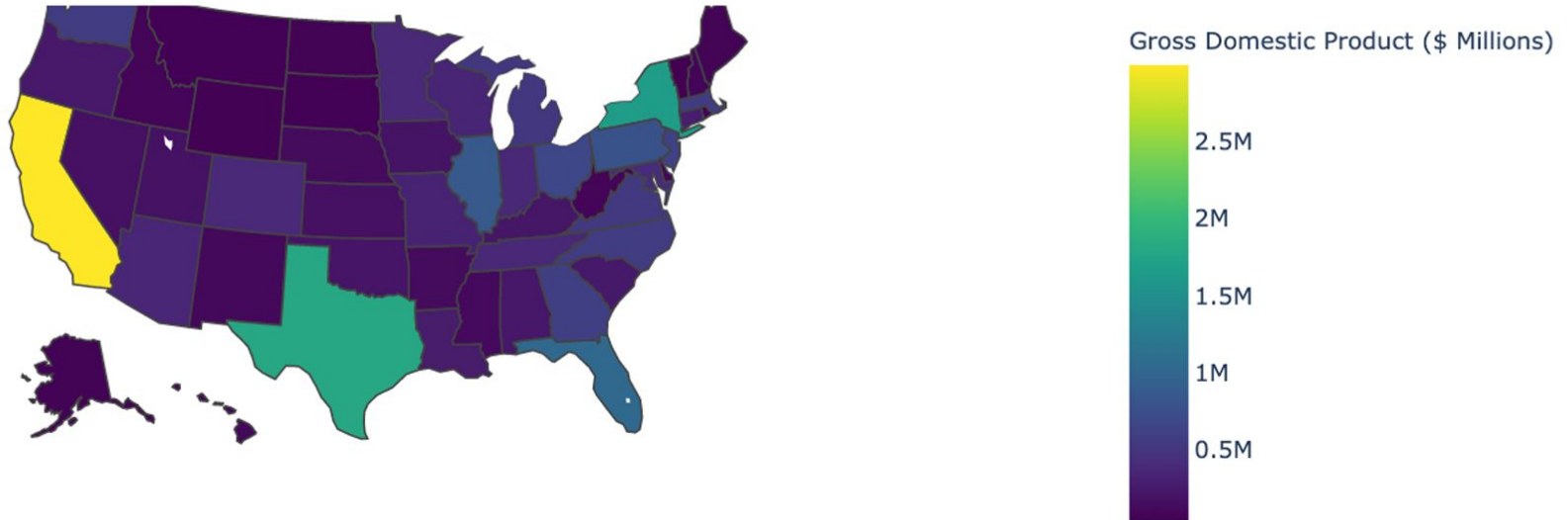


Geospatial data is another term for location-based data. Geospatial data typically includes coordinates (longitudes and latitudes), addresses, and zip codes. It also typically includes information like cities, counties, states, provinces, or countries/regions.

Geospatial Data

By basing visualizations on geospatial data, we can observe how the data is distributed across a specified location.

U.S. Gross Domestic Product (GDP) by State - 2015



Using Geographic Data

01

Businesses use geospatial data to target consumer hot spots, identify trends, or get economic information.

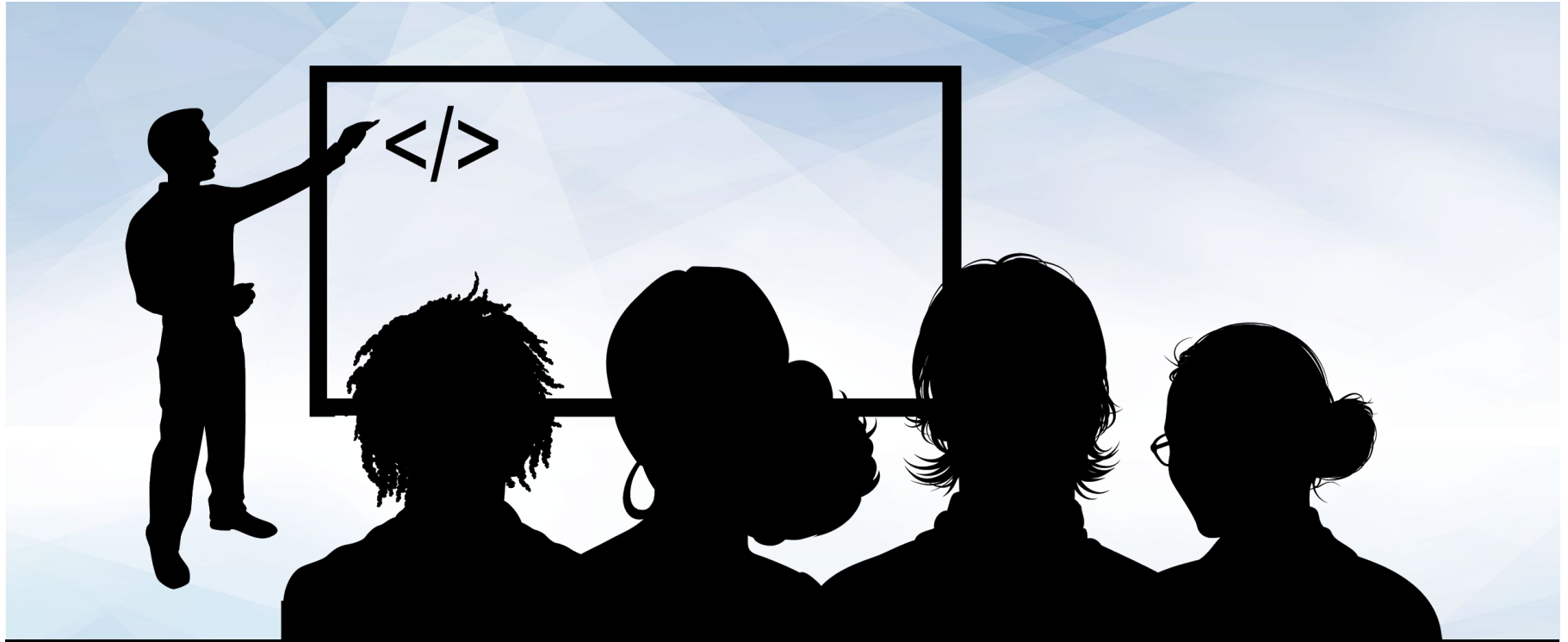
Consumers use geospatial data and services to estimate travel times, determine traffic patterns, and find missing devices.

02

There are a range of different methods for creating these types of plots, but today we'll use the PyViz library GeoViews to build your geospatial visualizations.

03

GeoViews is a powerful visualization library that can produce advanced charts and interactive visualizations. We'll use the GeoViews option built into hvPlot to create interactive maps for our geospatial data.



Instructor Demonstration

GeoViews Demo



Activity:

Geospatial Data in Real Estate Analysis

In this activity, we'll code together as we work through another example.

Suggested Time:
15 Minutes





Activity:

Mapping Adventure

In this activity, students will create scatter plots by using GeoViews. Break students into groups of three or four people.

(Instructions sent via Slack.)

Suggested Time:
15 Minutes





Time's Up! Let's Review.



Countdown timer

40:00

(with alarm)



Activity:

A Cartographer's Expedition

In this activity, students will create map plots to embark on a virtual expedition to various places of interest in New York City.

(Instructions sent via Slack.)

Suggested Time:
15 Minutes





Time's Up! Let's Review.



Activity:

Plotting Foreclosures

In this activity, students will use hvPlot with GeoViews to visualize and explore real-estate data.

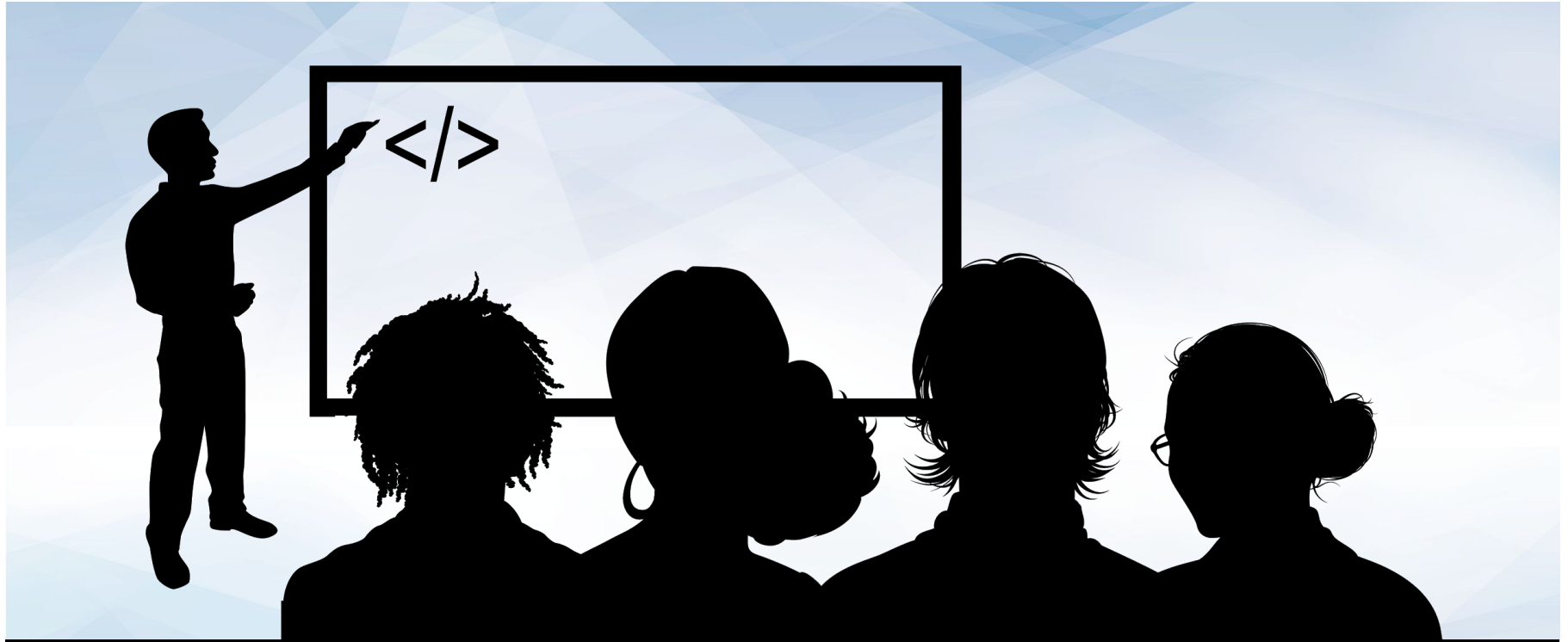
(Instructions sent via Slack.)

Suggested Time:
15 Minutes





Time's Up! Let's Review.



Instructor Demonstration

Review Homework

Recap and Questions