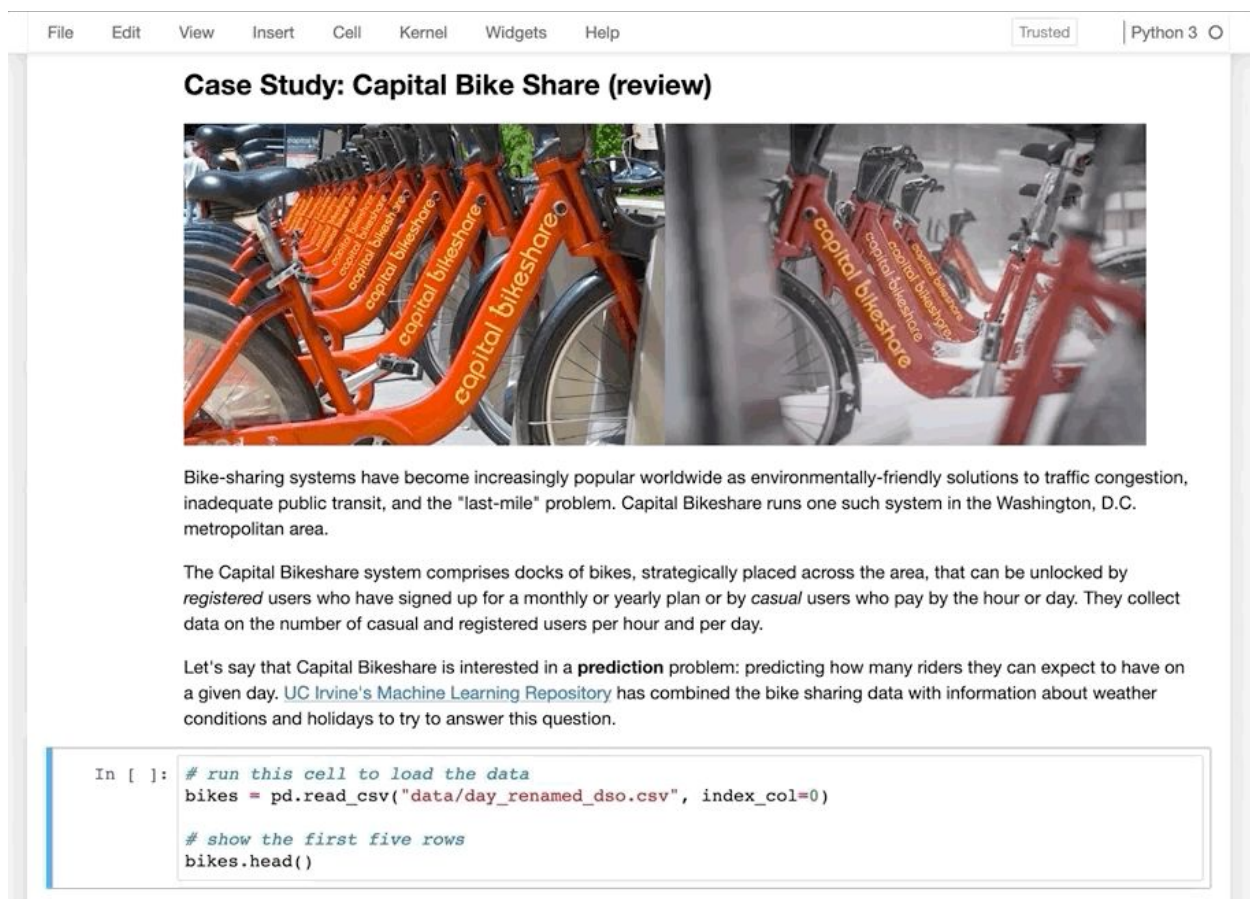


Estimated reading time: 2 minutes, 30 seconds

**Tip of the Week:** Let students interact with real data and code to analyze case studies.

Co-developed by UC Berkeley Professor Fernando Pérez, [Jupyter Notebook](#) is an open-source web application that allows you to create and share documents that contain live code, equations, visualizations, and narrative text.



The screenshot shows a Jupyter Notebook interface with a menu bar (File, Edit, View, Insert, Cell, Kernel, Widgets, Help), a 'Trusted' status indicator, and 'Python 3' kernel. The notebook content is titled 'Case Study: Capital Bike Share (review)'. It features an image of several orange Capital Bikeshare bicycles parked in a dock. Below the image, there is a paragraph of text: 'Bike-sharing systems have become increasingly popular worldwide as environmentally-friendly solutions to traffic congestion, inadequate public transit, and the "last-mile" problem. Capital Bikeshare runs one such system in the Washington, D.C. metropolitan area.' This is followed by another paragraph: 'The Capital Bikeshare system comprises docks of bikes, strategically placed across the area, that can be unlocked by *registered* users who have signed up for a monthly or yearly plan or by *casual* users who pay by the hour or day. They collect data on the number of casual and registered users per hour and per day.' A third paragraph states: 'Let's say that Capital Bikeshare is interested in a **prediction** problem: predicting how many riders they can expect to have on a given day. UC Irvine's Machine Learning Repository has combined the bike sharing data with information about weather conditions and holidays to try to answer this question.' At the bottom, there is a code cell with the following Python code: 

```
In [ ]: # run this cell to load the data
bikes = pd.read_csv("data/day_renamed_dso.csv", index_col=0)

# show the first five rows
bikes.head()
```

- You can use Jupyter Notebooks to clean and transform data, simulate numerical evidence, visualize data, create machine learning routines, and much more.
- Jupyter Notebooks support over 40 programming languages, including Python, R, Julia, and Scala.
- Notebooks can be shared with your students using email, Dropbox, and GitHub.
- Code in Jupyter can produce rich, interactive output in many formats, including HTML, images, videos, LaTeX, and custom MIME types.

Visit the [Berkeley Haas JupyterHub](#) to check out which courses are already using Jupyter Notebooks, and [contact Haas Digital](#) to learn more about developing your own.

**What topics should we cover next?** Fill out [this form](#) to let us know what else you'd like to learn about or to share tips that you think your fellow faculty members could benefit from.

**Want to review previous teaching tips?** Check out [the archive](#).

*The Online Teaching Tip of the Week is a series produced for Haas Faculty by the Associate Dean for Learning Strategies' Online Teaching Tips Team.*