Silicon Valley (a term popularized by Don Hoeffler) is a region of California known for the Semiconductor Industry. Industrial semiconducor production started in the 1960’s in the Santa Clara Valley, by companies in San Jose, Santa Clara, Cupertino, Sunnyvale, Mountain View and Palo Alto. Stanford University, Hewlett-Packard, and Fairchild Semiconductor played huge roles in the start and growth of this region.

The Santa Clara Valley, mosly rural and famous for growing fruit and garlic, had the stable foundations required for vibration-sensitive wafer lithography and wafer test equipment. Densly populated urban areas like San Francisco were not suitable for this work. San Francisco was not considered part of Silicon Valley in the early days.

What changed was the booming software industry, which does not have the same physical constraints required for manufacturing of semiconductors. Software heated up in the late 1990s in many places unsuitable for silicon work, such as downtown San Francisco or lower Manhattan in New York City. Silicon Valley was initially defined by companies who develop silicon based semiconductors. In recent years the definition has expanded to include software and many other technologies.

This brings us to 2025, where Silicon Valley as a region has expanded to include the entire San Francisco/San Jose region. Some people even apply this term to technology companies no matter where they are located, however many places have their own acroynm containing the word silicon, such as Silicon Alley (NYC), Silcon Prarie (Austin), etc.

I enjoyed using map\_libre again for a Figure Friday project. I have included the 58 out of 172 companies (34%) in this week’s data set based that are based in the San Francisco bay area, mostly to look at who these companies are, where are they located, and what do they do. With Map Libre, it is easy to see the 3 primary locations where these companies are located: In Santa Clara County (the original Silicon Valley), in downtown San Francisco, and in San Mateo County.

The code includes a function to wrap hover text across multiple lines. This is very useful for long descriptive strings. I used Chat GPT to make a table with longitude and latitude of these companies, and stored them in this file: “df\_norcal\_coords.csv”.

The code for this visualization is posted here on plotly community, however to run it you need the file with longitude and latitude values. You can get everything from:

* Git Repo: <https://github.com/Mike-Purtell/Plotly_FF_2024.git>
* Folder: Week\_52\_Stocks.

Here is a map\_libre view of the Bay Area, showing the locations of Bay Area companies in the dataset. The marker sizes and colors are tied to Market Cap.

A screenshot of a computer screen

Description automatically generated

Here is a view of software companies clustered in downtown San Francisco.

A screenshot of a computer

Description automatically generated