

Data Visualization using Plotly.js

Plotly.js (<https://plotly.com/javascript/>) is a free JavaScript library for data visualization, which allows you to create multiple types of charts and graphs. It was started in 2013. Version 2.0 of Plotly.js was released in 2021.

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(<https://github.com/plotly/plotly.js/blob/master/LICENSE>)

These samples were created using version 2.32.0.

Bar Chart



Figure 1: Chart data from [1]

Doughnut Chart

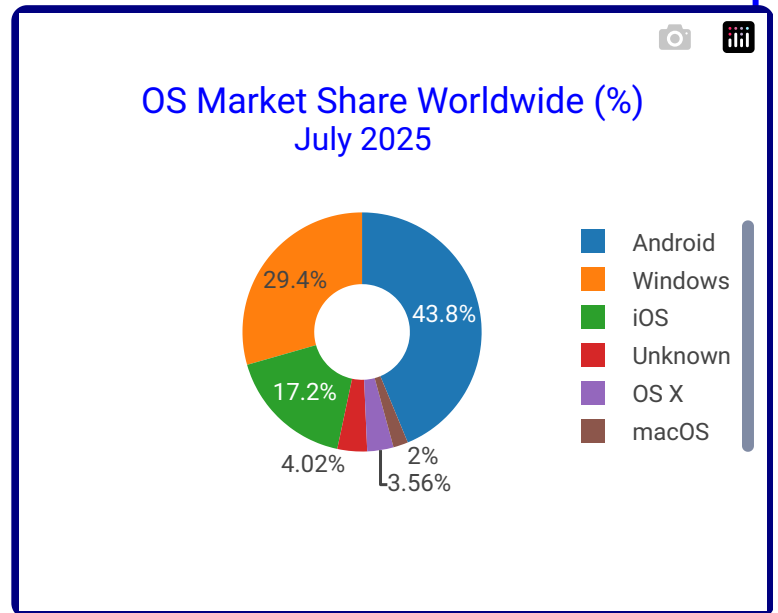


Figure 2: Chart data from [1]

Horizontal Bar Chart



Figure 3: Chart data from [1]

Line Chart

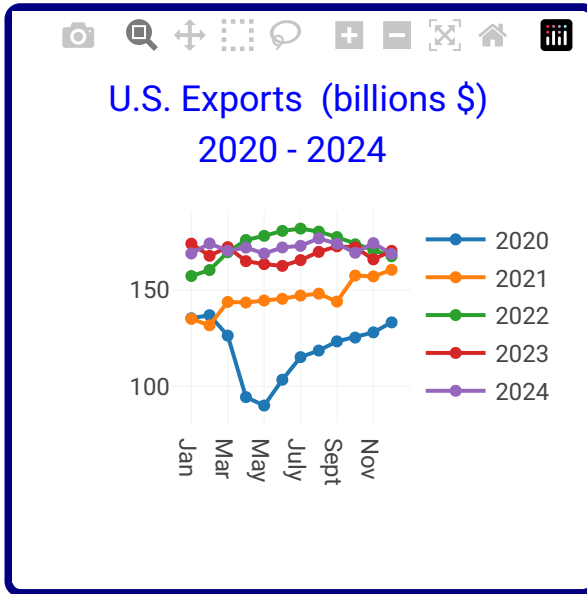


Figure 4: Chart data from [18]

Pie Chart

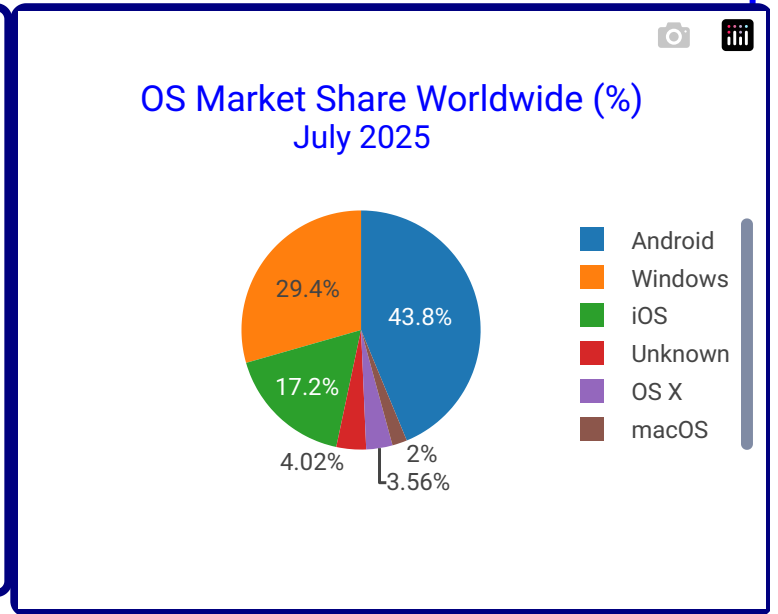


Figure 5: Chart data from [1]

Bubble Chart

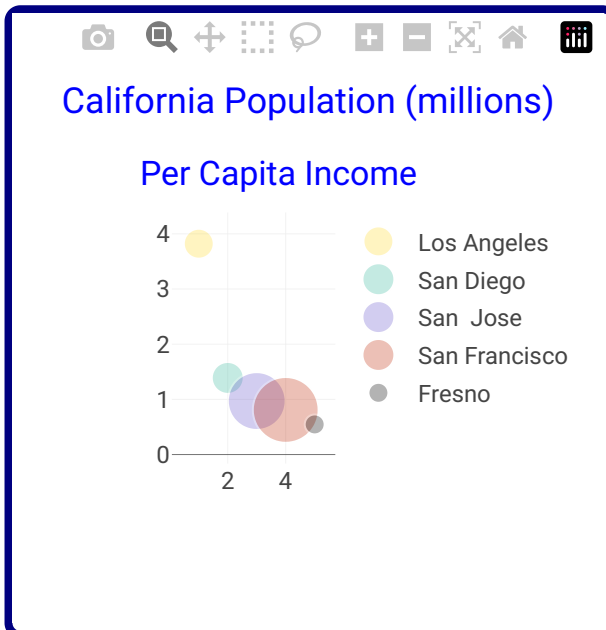


Figure 6: Chart data from [19] [20] [21] [22] [23] [24]

Mixed Chart

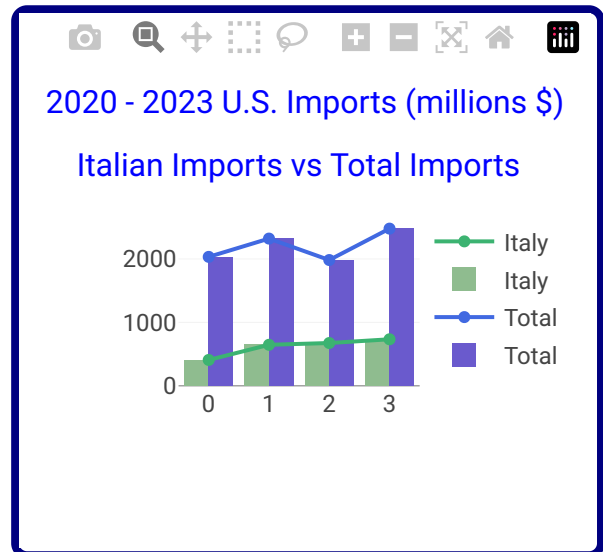


Figure 7: Simulated chart data.

Area Chart



Figure 8: Simulated chart data.

References:

- [1] “Operating System Market Share Worldwide,” *StatCounter Global Stats*. [Online]. Available: <https://gs.statcounter.com/os-market-share>. [Accessed: 03-Sept-2025].
- [2] “Chart.js.” [Online]. [Online]. Available: <https://www.chartjs.org/>. [Accessed: 03-Sept-2025].
Chart.js is licensed under the MIT license
(<https://github.com/chartjs/Chart.js/blob/master/LICENSE.md>)
- [3] “Chart.js | Chart.js.” [Online]. Available: <https://www.chartjs.org/docs/latest/>. [Accessed: Oct. 04, 2025].
- [4] “Chart.js | Chart.js.” [Online]. Available: <https://www.chartjs.org/docs/3.2.1/>. [Accessed: Oct. 04, 2025].
- [5] “Basic | Chart.js.” [Online]. Available: <https://www.chartjs.org/docs/latest/samples/subtitle/basic.html>. [Accessed: Oct. 04, 2025].
- [6] “Subtitle | Chart.js.” [Online]. Available: <https://www.chartjs.org/docs/latest/configuration/subtitle.html>. [Accessed: Oct. 04, 2025].
- [7] “Area Chart | Chart.js.” [Online]. Available: <https://www.chartjs.org/docs/latest/charts/area.html>. [Accessed: Oct. 04, 2025].
- [8] “Bubble Chart | Chart.js.” [Online]. Available: <https://www.chartjs.org/docs/latest/charts/bubble.html>. [Accessed: Oct. 04, 2025].
- [9] “Doughnut and Pie Charts | Chart.js.” [Online]. Available: <https://www.chartjs.org/docs/latest/charts/doughnut.html>. [Accessed: Oct. 04, 2025].
- [10] “Multi Series Pie | Chart.js.” [Online]. Available: <https://www.chartjs.org/docs/latest/samples/other-charts/multi-series-pie.html>. [Accessed: Oct. 04, 2025].
- [11] “Mixed Chart Types | Chart.js.” [Online]. Available: <https://www.chartjs.org/docs/latest/charts/mixed.html>. [Accessed: Oct. 04, 2025].
- [12] “Polar Area Chart | Chart.js.” [Online]. Available: <https://www.chartjs.org/docs/latest/charts/polar.html>. [Accessed: Oct. 04, 2025].
- [13] AnyChart, “Polar Chart | Chartopedia,” *AnyChart*. [Online]. Available: <https://www.anychart.com/chartopedia/chart-type/polar-chart/>. [Accessed: Oct. 04, 2025].
- [14] “Radar Chart | Chart.js.” [Online]. Available: <https://www.chartjs.org/docs/latest/charts/radar.html>. [Accessed: Oct. 04, 2025].
- [15] “Scatter Chart | Chart.js.” [Online]. Available: <https://www.chartjs.org/docs/latest/charts/scatter.html>. [Accessed: Oct. 04, 2025].
- [16] “Scatter | Chart.js.” [Online]. Available: <https://www.chartjs.org/docs/latest/samples/other-charts/scatter.html>. [Accessed: Oct. 04, 2025].

References (continued):

- [17] "Time Scale - Combo Chart | Chart.js." [Online]. Available: <https://www.chartjs.org/docs/latest/samples/scales/time-combo.html>. [Accessed: Oct. 04, 2025].
- [18] U. C. Bureau, "International Trade." [Online]. Available: <https://www.census.gov/foreign-trade/balance/c0004.html>. [Accessed: Oct. 04, 2025].
- [19] "15 Largest Cities in California, Ranked by Population," *HowStuffWorks*, Jan. 15, 2025. [Online]. Available: <https://history.howstuffworks.com/american-history/largest-cities-in-california.htm>. [Accessed: Oct. 04, 2025].
- [20] "Per Capita Personal Income in Los Angeles County, CA - 2025 Data 2026 Forecast 1969-2023 Historical." [Online]. Available: <https://tradingeconomics.com/united-states/per-capita-personal-income-in-los-angeles-county-ca-fed-data.html>. [Accessed: Oct. 04, 2025].
- [21] "Per Capita Personal Income in San Diego County, CA," Mar. 04, 2025. [Online]. Available: <https://fred.stlouisfed.org/series/PCPI06073>. [Accessed: Oct. 04, 2025].
- [22] "Per Capita Personal Income in San Jose-Sunnyvale-Santa Clara, CA (MSA)," Mar. 04, 2025. [Online]. Available: <https://fred.stlouisfed.org/series/SANJ906PCPI>. [Accessed: Oct. 04, 2025].
- [23] "Per Capita Personal Income in San Francisco County/city, CA," Mar. 04, 2025. [Online]. Available: <https://fred.stlouisfed.org/series/PCPI06075>. [Accessed: Oct. 04, 2025].
- [24] "Per Capita Personal Income in Fresno, CA (MSA)," Mar. 04, 2025. [Online]. Available: <https://fred.stlouisfed.org/series/FRES406PCPI>. [Accessed: Oct. 04, 2025].
- [25] "Chart.js Area Chart," *GeeksforGeeks*, Oct. 28, 2023. [Online]. Available: <https://www.geeksforgeeks.org/javascript/chart-js-area-chart/>. [Accessed: Oct. 10, 2025].
- [26] "Chart.js Polar Area Chart," *GeeksforGeeks*, Dec. 04, 2023. [Online]. Available: <https://www.geeksforgeeks.org/javascript/chart-js-polar-area-chart/>. [Accessed: Oct. 10, 2025].
- [27] "Chart.js Radar Chart," *GeeksforGeeks*, Dec. 05, 2023. [Online]. Available: <https://www.geeksforgeeks.org/javascript/chart-js-radar-chart/>. [Accessed: Oct. 10, 2025].
- [28] "Chart.js Scatter Chart," *GeeksforGeeks*, Dec. 04, 2023. [Online]. Available: <https://www.geeksforgeeks.org/javascript/chart-js-scatter-chart/>. [Accessed: Oct. 10, 2025].
- [29] "Plotly JavaScript Open Source Graphing Library" [Online]. Available: <https://plotly.com/javascript/>. [Accessed: 16-Oct-2025].
Plotly.js is licensed under the MIT license
 (<https://github.com/plotly/plotly.js/blob/master/LICENSE>)
- [30] "Is Plotly.js Free?" [Online]. Available: <https://plotly.com/javascript/is-plotly-free/>. [Accessed: 16-Oct-2025].
- [31] "Getting Started in JavaScript" [Online]. Available: <https://plotly.com/javascript/getting-started/>. [Accessed: 16-Oct-2025].

References (continued):

[32] "Line Charts in JavaScript" [Online]. Available: <https://plotly.com/javascript/line-charts/>. [Accessed: 16-Oct-2025].

[33] "Bar Charts in JavaScript" [Online]. Available: <https://plotly.com/javascript/bar-charts/>. [Accessed: 16-Oct-2025].

[34] "Horizontal Bar Charts in JavaScript" [Online]. Available: <https://plotly.com/javascript/horizontal-bar-charts/>. [Accessed: 16-Oct-2025].

[35] "Pie Charts in JavaScript" [Online]. Available: <https://plotly.com/javascript/pie-charts/>. [Accessed: 16-Oct-2025].

[36] "Bubble Charts in JavaScript" [Online]. Available: <https://plotly.com/javascript/bubble-charts/>. [Accessed: 16-Oct-2025].

[37] "Multiple Chart Types in JavaScript" [Online]. Available: <https://plotly.com/javascript/graphing-multiple-chart-types/>. [Accessed: 16-Oct-2025].

[38] "Filled Area Plots in JavaScript" [Online]. Available: <https://plotly.com/javascript/filled-area-plots/>. [Accessed: 16-Oct-2025].

[39] "JavaScript Figure Reference: layout" [Online]. Available: <https://plotly.com/javascript/reference/layout/>. [Accessed: 16-Oct-2025].

[40] "Plot Subtitle #233" *GitHub*. [Online]. Available: <https://github.com/plotly/plotly.js/issues/233>. [Accessed: 16-Oct-2025].

[41] "Subtitle does not render following example from docs #4715" *GitHub*. [Online]. Available: <https://github.com/plotly/plotly.py/issues/4715>. [Accessed: 16-Oct-2025].

[42] "Plotly.js." *W3Schools*. [Online]. Available: https://www.w3schools.com/Js/js_graphics_plotly.asp. [Accessed: 18-Oct-2025].

[43] "🎉 Announcing Plotly.js 2.0!," *Plotly Community Forum*, Jun. 08, 2021. [Online]. Available: <https://community.plotly.com/t/announcing-plotly-js-2-0/53675>. [Accessed: 18-Oct-2025].

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