



**Introduction:** Before choosing a dashboard we must know it's strengths and weaknesses. Here a comparison between Plotly **Dash,Panel,Streamlit and Voilà** is being presented.

|   | Dash  | Panel   | Streamlit  | Voila'  |
|---|---|---|--|---|
| <b>Primary Objective</b>                                | 2 different versions of the Dash framework available on the market today — 'Dash Open Source' and 'Dash Enterprise'.It have the power of plotly.js and React.js   | Panel is a fully open source.<br><br>Jupyter server, or normal web server,<br><br>It is also possible to export your application as a typical HTML webpage .<br><br>Panel comes with the power of HoloViz family of tools.<br><br>Maintained by Anaconda developers.  | Full open source<br><br>"The fastest way to build and share data apps"  <a href="#">Streamlit</a>                                     | Maintained by Jupyter community of developers. Primary objective is transition from exploratory phase of data analysis to visual representaiion on webserver and communication of resulting data insight. |
| <b>Multipage</b>  | yes   | Yes   | no   | no  |
| <b>Language</b>   | python,R,Julia  | Python  | python   | python,c++ ,Julia   |
| <b>Simultaneous Users</b>                               | Perfect   | supports-well   | No   | dont support good   |
| <b>Big data set</b>                                     | yes   | yes   | No   | No  |
| <b>File type Support</b>                                | .py and .ipynb  | .py and .ipynb  | .py  | .ipynb  |
| <b>Optimal use cases</b>                                | Perfect in all case   | perfect when working with geo spatial data  | when data set is small   | when we have to present our python notebook on web  |
| <b>Development — Advantages + Disadvantages</b>         | Each Dash app is composed of 2 parts — the application layout, and application callbacks which permit interactivity<br><a href="https://dash.plotly.com/layout">https://dash.plotly.com/layout</a><br><br>Create your own Dash components using JavaScript and React.js | Panel's main strength is its extensive API.<br><br>There are multiple ways of doing the same thing .<br><br>Panel applications are built of 3 main components: Widgets, Panes, and Panels .<br><br> <a href="#">Panel User Guide</a>               | quick and easy development flow<br><br>application will update to reflect these changes in the browser.<br><br>Streamlit prides itself on its simplicity,  |   |
| <b>Deployment — Options, Advantages + Disadvantages</b> | It is possible to deploy your Dash application to AWS, Azure, Google Cloud Platform, and many other cloud providers.<br>Dash offer Dash Deployment Server.<br>ContainDS Dashboard.<br>Can be deployed on Apache Webserver and also on an Nginx webserver.               | Panel apps are supported by Jupyter, Bokeh, and Voilà servers,<br><br>Recommend way is to deploy panel app on bokeh server and then deploy it to production environment.<br><br>Panel app can be deployed on bokeh server, heroku, google cloud, Microsoft Azure, and DigitalOcean.<br>MyBinder is another option to deploy panel app | <a href="https://discuss.streamlit.io/t/streamlit-deployment-guide-wiki/5099">https://discuss.streamlit.io/t/streamlit-deployment-guide-wiki/5099</a><br><br>Streamlit sharing is another option to deploy the dasboard. | Binder,Heroku,google app engine.  |

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