

#### JupyterLab

- Even if you don't use Jupyter, you can still take this survey. Just indicate this fact in the first question and carry on as best as you can.
- Thank you your participation guides
   Jupyter's roadmap toward your real-life
   use cases.
- So that you know what to expect, it's comprised of 20 questions (#7 is the

only big one) spread across these sections:

- Usage patterns.
- Data
- Visualization.
- Scale.
- Collaboration.

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#### **Usage Patterns**

#### \* 1. How frequently do you use Jupyter?

Daily: 3	or le	ss hou	ırs pe	er day.

Daily: 4 or more hours per day.

- Weekly.
- Monthly.
- I no longer use Jupyter.
- I have never used Jupyter.

#### \* 2. How long have you been using

2+ years.	
1-2 years.	
6-12 months.	
Less than 6 months (we	lcome =]).
O I don't use Jupyter.	
<u>* 3. What language</u>	
<u>Jupyter? (pick up</u>	<u>to 4).</u>
C (and derivatives)	Ruby
Groovy	Rust
Java	Scala
JavaScript	Spark SQL
NodeJS	SQL
Perl	TypeScript

! I wrap/ use bindings for

! My preferred language is

not supported in Jupyter.

other languages.

0 of 22 answered

Other (please specify)

PHP

Python

### \* 4. wnat are your primary job roles when you are using Jupyter? (pick up to 2)

Backend engineer.	Front end/ web development.
Business analyst.	
Data engineer.	Infrastructure engineer/cloud architect.
Data scientist.	Scientist/ researcher.
Database Admin (DBA).	Student.
DevOps.	Sysadmin.
Financial modeler/ analyst.	Teacher/ lecturer.
	Tutor/ teaching assistant.
Other (please specify)	

\* 5. What are your go-to tools
for performing data science, scientific
computing, and machine learning on
your laptop/ desktop (non-cloud) for data
science? (pick up to 3)

Zeppelin.	VS Code.
JupyterLab	Emacs.

PyCharm. Vim.

Jupyter Notebook (classic) iPython.

Sublime Text.	RStudio.
Spyder.	
Other (please specify)	
+ C II d	
* 6. How do you run a Jupyter? (pick up to	
Run directly on local machine (laptop, desktop).	Cloud service - Azure: Notebooks, ML Studio.
Through a Python virtual environment (e.g. conda,	Cloud service - Databricks
venv)	Cloud service - Google: Al Platform, Dataproc.
Through Docker.	Cloud service - IBM: Watson.
HPC or on-premise server.	Google Colab.
Cloud server (e.g. EC2).	
JupyterHub.	Through a 3rd party SaaS app (e.g. Observable, CoCalc)
BinderHub / MyBinder.	
Cloud service - AWS: EMR, SageMaker.	Don't know how, I just go to a URL.
Other (please specify)	

# \* 7. What tasks do you need to perform and what tools do you use to accomplish them?

How frequently do you perform this task?

To what degree does Jupyter meet your expectations for this? To what degree do alternative tools meet your expectations for this?

Building a machine learning or statistical model.

Writing a software package.

Writing and running tests for software.

Cleaning and preparing data.

Run pipelines, workflows, or ETL jobs.

Visualize data in charts, plots, or dashboards.

Documenting research (reports, scientific papers)

Creating content (blogs).

Finding extensions/ plugins to solve my problems.

Writing software documentation.

> How frequently do you perform this task?

To what degree does Jupyter meet your expectations for this?

To what degree do alternative tools meet your expectations for this?

Developing extensions/ plugins to solve my problems.

Other major use cases (please specify).

#### Data

#### \* 8. What data sources are you primarily working with in your role? (pick up to 3)

My local file system (e.g.		Graph database (Neo4j,
files and folder on local		TigerGraph).
machine).		
		Time Series (e.g. InfluxDB).
File system (e.g. HPC,		
EBS/EFS, JupyterHub		Pub sub (e.g. Kafka, Druid).
volumes).		
	files and folder on local machine).  File system (e.g. HPC, EBS/EFS, JupyterHub	files and folder on local machine).  File system (e.g. HPC, EBS/EFS, JupyterHub

Cloud object storage (e.g. buckets, S3, Blob, GS).

SQL (e.g. PostgreSQL, MySQL)

SQL - embedded (e.g. SQLite)

Key value (e.g. Redis, MemcacheDB).

Google Sheets.

Industry or field specific APIs.

Streaming.

NoSQL - columnar store
(e.g. Parquet, Arrow, HDFS,
BigQuery).
NoSQL - document store
(e.g. MongoDB,
Elasticsearch, CouchDB).
Other (please specify)

# \* 9. What data formats are you mostly working with? (pick up to 3)

Tabular (csv,		Time series.	Graph (nodes,
spreadsheet, database tables,		Text.	edges).
parquet).		Audio.	Spatial/
Images.		Audio.	geographic (coordinates,
Tensors (deep		Video.	GIS).
learning).		3D/ CAD.	Game/ reinforcement
Nested (JSON, NoSQL).			simulation.
Hierarchical Data Format (HDF5).	l		! Industry- specific file formats.
Other (please spe	ecify	)	

# \* 10. Do you experience these **problems**with data in Jupyter? (rate from scale of 0-4)

	(0) Not a problem for me.	(1) Trivial.	(2) Minor.	(3) Major.	(4) Critical.	N/A - skip, don't know.
No grid view for manipulating/ filtering dataframes and arrays.						
Can't see a list of my current variables.						
Data is too big to fit into memory on my machine/ server.						
Managing database/ source connections and secrets.						
Poor MVC/ ORM integrations (Django, Flask).						
Lost data during failure or restart of kernel/ server.						
Other (please specify)						

## \* 11. What type of analysis are you running? (up to 4)

		am	not	perfo	ormi	ng	ML	/sta	tisti	ical	task	(S
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Regression (predict a numeric output).
Classification (predict a categorical output).
Generative/ auto-encode (create new data based on existing data).
Reinforcement learning (actions that maximize a reward)
Dimensionality reduction (PCA, K-Nearest Neighbors)
Feature engineering (importance, extraction, selection, permutation).
Natural language processing.
Graph data science.
Outlier detection.
Other (please specify)

#### Visualization

\* 12. What tools does your team use to create dashboards tools? (pick up to 3)

! My team doesn't create	Tableau
dashboard tools.	
	Looker.
Write our own in HTML & JS.	
	Klipfolio

Kibana.	Spotfire.
Dash-Plotly.	Grafana
Voila.	
Other (please specify)	

# \* 13. Do you experience these **problems** with visualization in Jupyter?

	(0) Not a problem for me.	(1) Trivial.	(2) Minor.	(3) Major.	(4) Critical.	N/A - skip, don't know.
No built-in UI for creating charts.						
Can't publish my charts as web-based dashboards.						
Poor/ buggy support for my plotting tool.						
Displaying highly dimensional data (array of array of arrays, too many rows/ columns to fit on screen).						
Lacking templating support (Jinja2)						

# \* 14. How do you scale and schedule your workloads? (up to 4)

They run just fine on my local	Jupyter [ Enterprise	Workflow - Papermill
machine 😃 .	Gateway.	Workflow -
? I need to scale, but don't know how.	Jupyter BinderHub.	Nextflow, WDL, CWL.
On-premise HPC/data center.	Quantum (e.g. D- [ Wave).	Workflow - Airflow.
Cloud server (e.g. EC2)	Horovod. [ Kubeflow.	Workflow - cloud service (e.g. AWS Batch)
Cloud service for ML/ AI (e.g. AWS SageMaker)	Elyra. (Workflow -	Cloud query service (AWS Presto or
Spark cluster (e.g. similar Hadoop, Dask).	Snakemake.	Athena)
K8s cluster (e.g. Mesos, Swarm, Slurm).		
Other (please specify	)	

# 15. Do you experience these **problems** with scale in Jupyter?

	(0) Not					N/A -
	a problem for me.	(1) Trivial.	(2) Minor.	(3) Major.	(4) Critical.	skip, don't know.
Figuring out how to schedule batch execution of notebook- based jobs.						
Don't have the budget for more scalable environment/cloud services.						
Haven't divided longer notebooks into multiple, modular notebooks.						
Not persisting the outputs of a notebook.						
ML training jobs take too long.						
Can't call code/ modules from other notebooks.						
Managing Spark dependencies (Java) and connections.						

#### Collaboration

## \* 16. With how many other people are you collaborating?

0 25 50+

## \* 17. What is your reason for sharing a notebook with someone else? (up to 3)

! I am not working with other people.	Edit/ contribute some of their own code.
Share knowledge.	Edit/ contribute some of their own writing.
Feedback about my writing.	Teach/ tutor them.
Feedback about my code.	
Formal code review.	Peer programming.
	Deploy my code/ model/
Integrate my code/ data with their downstream or	pipeline/ dashboard.
upstream processes.	
Other (please specify)	

### \* 18. What is the nature of your collaboration?

How long have you been How frequently do you work

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working together?

How long have you been How frequently do you work together?

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Describe the collaboration:

Comments about collaboration:

#### \* 19. Do you have **challenges with** collaboration in Jupyter?

	(0) Not a problem for me.	(1) Trivial.	(2) Minor.	(3) Major.	(4) Critical.	N/A - skip, don't know.
Don't know what dependencies (versions of language, packages, extensions) a notebook uses.						
Don't know/ have the data a notebook is supposed to use.						
Poor support for our version control (git) system.						
Publishing my notebook to a shared location.						
Not being able to comment on notebooks.						
More robust non- git version history						

# <u>\* 20. Do you have challenges with the notebook UI?</u>

	(0) Not					
	a problem for me.	(1) Trivial.	(2) Minor.	(3) Major.	(4) Critical.	N/A - skip.
Can't see hidden (.) files in file browser.						
Can't collapse sections of a notebook hierarchically.						
No Extension marketplace (5 star ratings, categories).						
No global search.						
Don't know which cell failed in long notebook.						
No progress bar for running long notebooks.						
Poor autocompletion [LSP, show methods/ attributes].						
No modes for editing other Jupyter documents (MyST, Jupyter Book).						

You did it - thank you!

21. Open feedback for problems/ pain points you didn't get to share.

22. Email Address for Recontact - Do we have your permission to recontact you for a user interview? (If not, leave this question blank.)

DONE

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