

Welcome



R A Y



S A T U R D A Y

Trainers: Emmy, Jules

TAs: Ricky, Antoni

Organizing team: trainers + TAs + Eric, Robert, Kamil

WiFi: Anyscale-Guest | **Password:** ProgramTheCloud

Twitter: #raysaturday, @raydistributed



SATURDAY

The word "SATURDAY" is written in large, bold, white capital letters. Each letter is placed on a colored, three-dimensional rectangular block. The colors of the blocks follow a repeating pattern: blue, orange, purple, green, pink, blue, green, orange. The blocks are slightly tilted, giving the word a dynamic, three-dimensional appearance.

Few Important URLs

Keep these URLs open in your browser tabs

- Ray Documentation: <https://bit.ly/ray-core-docs>
- Ray Saturday Survey: <https://bit.ly/ray-saturday-feedback>
- GitHub: <https://bit.ly/ray-saturday-github>



Ray Saturday agenda



10:00 am	Welcome message
10:10 am	The state of Ray
10:30 am	Course logistics
10:50 am	Overview of Ray
11:30 am	Coffee break
11:40 am	Introduction to Ray AI Runtime
12:20 pm	Lunch
1:00 pm	Elements of Ray Core
2:30 pm	Coffee break
2:45 pm	Scaling CV workload (batch inference) with Ray
4:15 pm	Coffee break
4:30 pm	Wrap up (final QA and event survey)
4:45 pm	What's next for the community?
5:00 pm	End

What inspired Ray Saturday?

<https://sqlsaturday.com/>



Communal camaraderie

- Meet others of like minds
- Meet others w/ same use cases



Communal learning & training

- Learn and work together
- Learn and train



Communal sharing

- Sharing, networking,
- Extending knowledge expertise



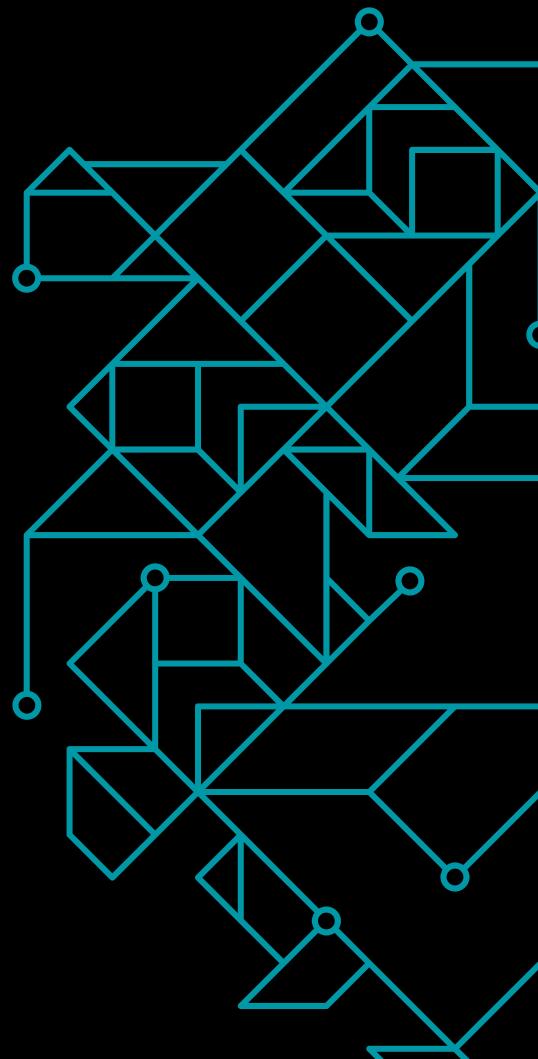
How can you help Ray Saturday?



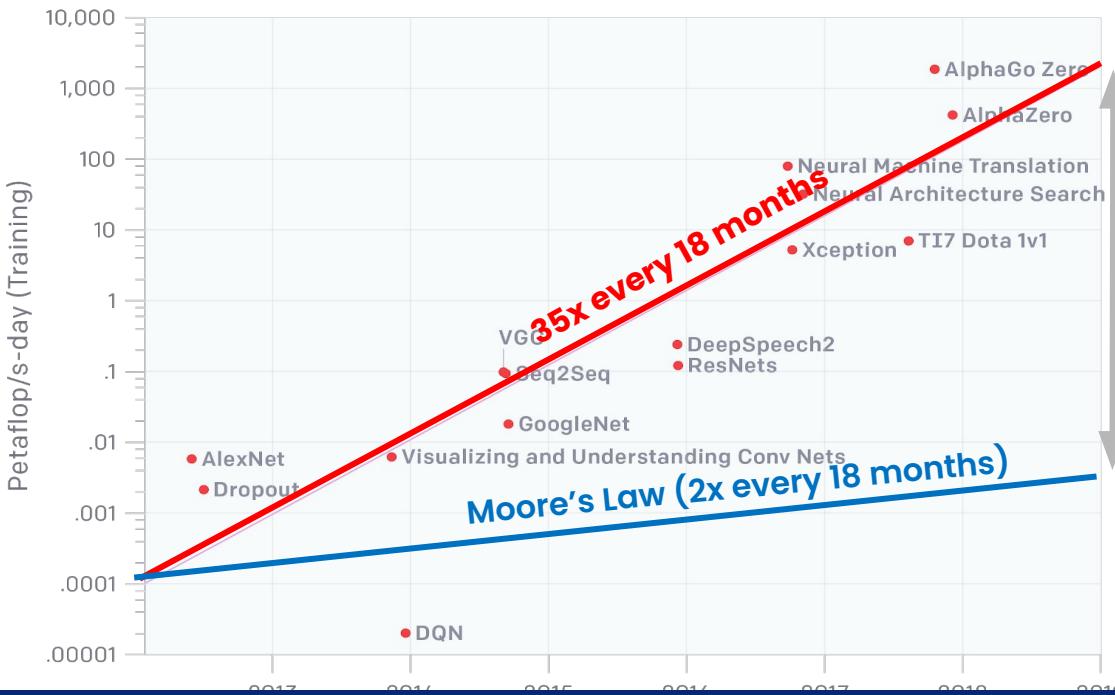
Simple asks:

1. Your presence here
2. Your critical feedback
3. Your communal advocacy

The State of Ray



A Growing Gap



Scaling AI is no longer an option, it is a requirement





700 Contributors

Ray: A global community



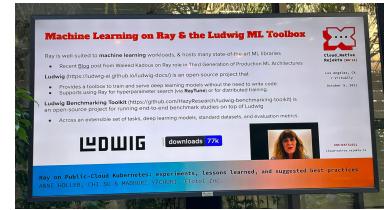
Colombia

Ray Serve

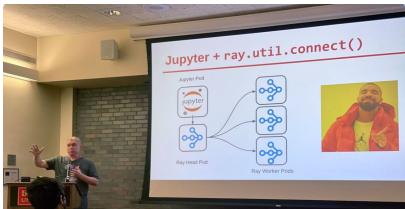
MLモデルを簡単にスケーラブルにデプロイできるモデルサービング

1. **Framework依存なし:** PyTorch, Tensorflow, keras, scikit-learnなどどんなFrameworkでもOK
2. **Pythonファースト:** ConfigurationをPythonで書ける

Japan



Los Angeles



Boston

Veloce: 基于Ray的异构训练低代码工具库

—— 360 机器学习平台在推荐场景下的探索

翟晓宇

360

China



Toronto

... and many more!

Ray: Fastest Growing Scalable Compute Framework



McKinsey
& Company



ERICSSON



cruise

Morgan Stanley



J.P.Morgan



Uber



RICARDO



verizon[✓]



20,000+

GitHub
stars

700+

Community
Contributors

5,000+

Repositories
Depend on Ray

1,000+

Organizations
Using Ray

ETA prediction, safety,
maps, eats, marketplace

Deep learning,
classical ML,
hyperparameter
tuning, data ingest





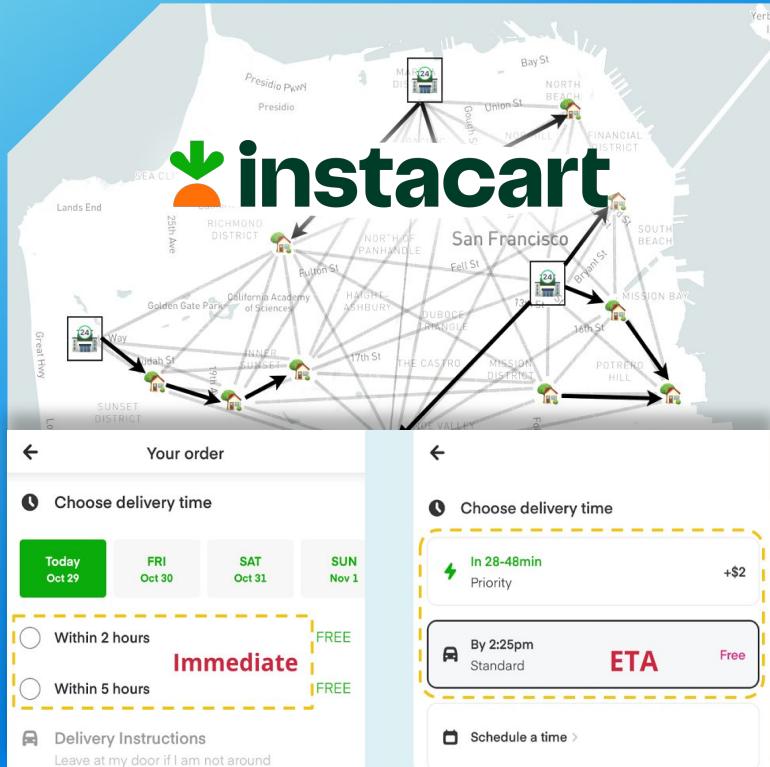
Online learning,
fraud detection,
financial decision making...

Deploying Ray on
450K+ CPU cores

Product categorization
& recommendations
with Merlin, Spotify's ML
platform

Scale any workload
or ML library





Order fulfillment,
scheduling, delivery ETAs
**Reduce training times
for 12,000 models
from days to hours**

Data compaction, table
management, analysis
of ML workflows

Process petabytes
per day, reduce cost
90%, scale 12x more





Training their largest
models

ChatGPT trained
using Ray

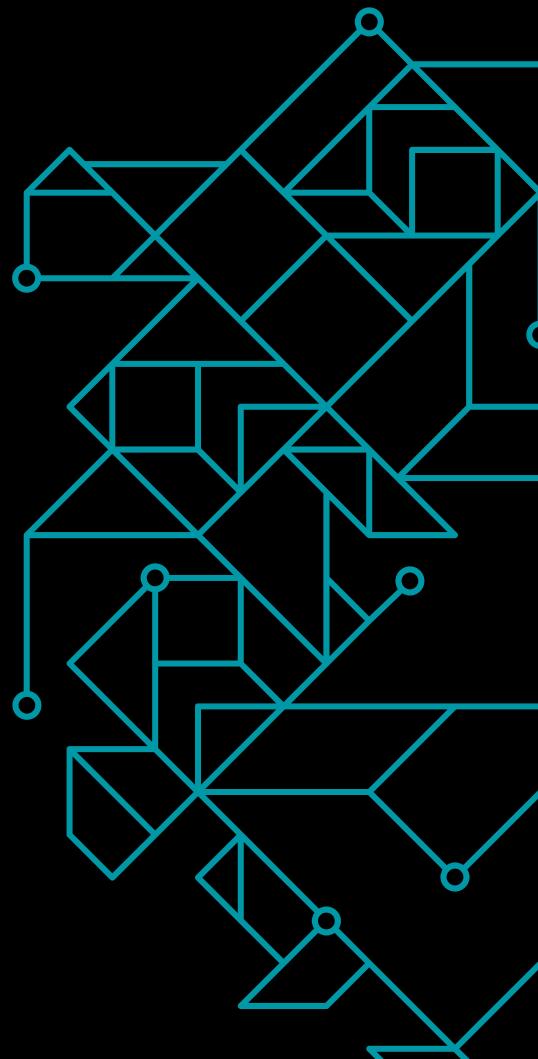
Designing sailboats in
simulation, building them
in the real world

They won the
America's Cup

McKinsey
& Company



Course Logistics





Join the Slack!

Join the workspace via this link: bit.ly/ray-slack

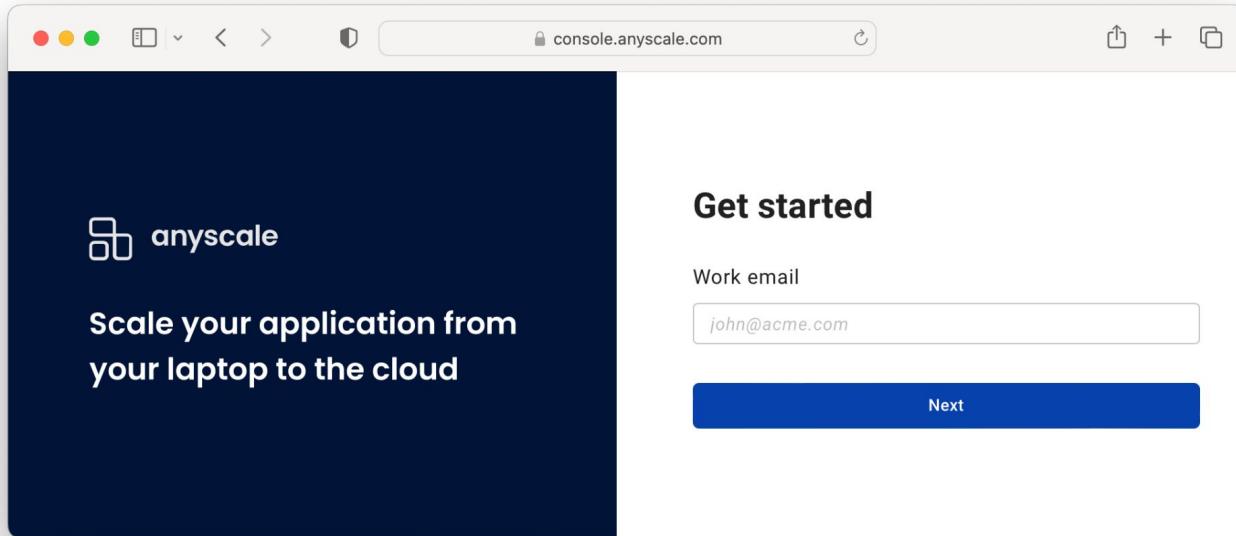
Chat in **#ray-saturday** to

- ask questions
- participate in discussions
- continue the conversation after the event

Trainers and TAs will be answering questions live and via the channel.

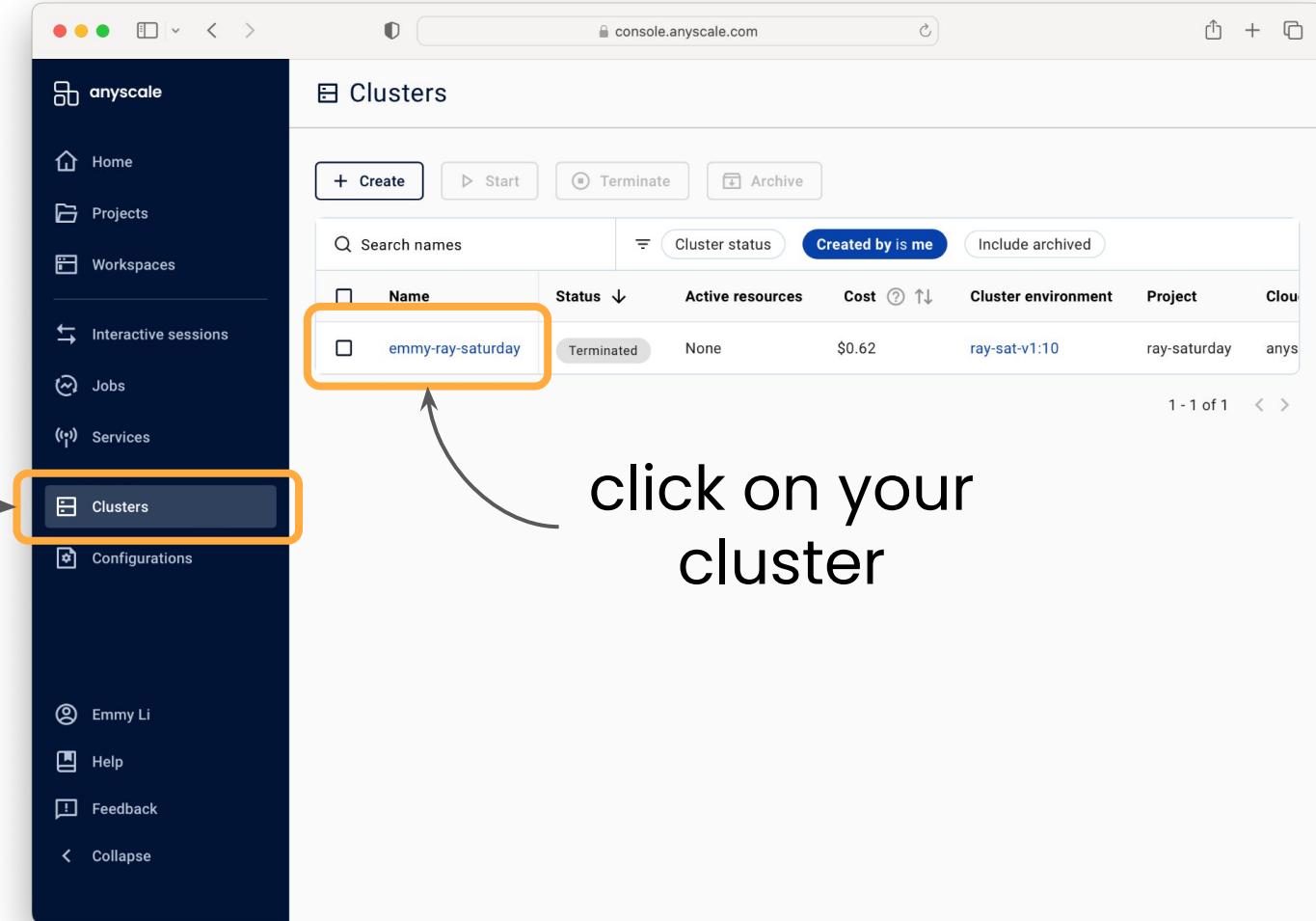


Link to Anyscale cluster: console.anyscale.com



Check your **email** for your unique username and password!

select
“Clusters”



Clusters

+ Create Start Terminate Archive

Name	Status	Active resources	Cost	Cluster environment	Project	Cloud provider
emmy-ray-saturday	Terminated	None	\$0.62	ray-sat-v1:10	ray-saturday	anyscale

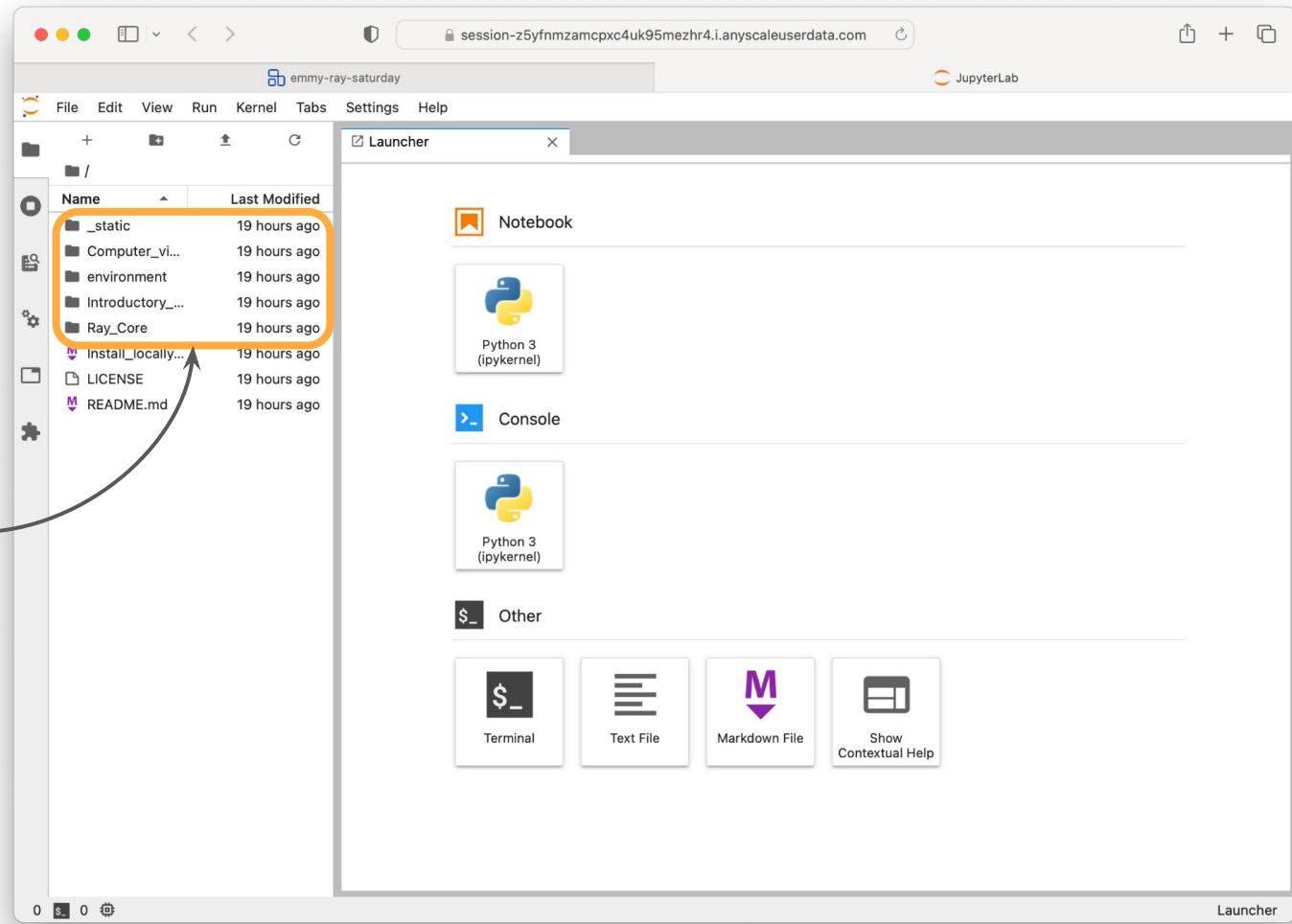
1 - 1 of 1

click on your cluster

“Start” the cluster,
then
select
“Jupyter”

The screenshot shows the anyscale console interface. On the left is a sidebar with navigation links: Home, Projects (highlighted in blue), Workspaces, Interactive sessions, Jobs, Services (highlighted with a grey bar), Clusters, Configurations, Emmy Li, Help, Feedback, and Collapse. The main content area has a breadcrumb path: ray... > emmy-ra... > Jupyter. The Jupyter button is highlighted with an orange box and an arrow points to it from the "Services" link in the sidebar. Below the breadcrumb is a section titled "About this cluster" with details: Status (Active), ID (ses_z5yfnmzamcpxc4uk95mezhr4), Created by (emmy@anyscale.com), Created at (Dec 8, 2022 at 10:01:54 AM), Access (Everyone in your organization can view a...), and Project (ray-saturday). A section titled "Resource usage" shows CPU, Object store memory, and GPU all at 0%. Below that is a cost summary: Cost since last start (\$0.02) and Cost since creation (\$2.50). The "Configuration" section lists Cluster environment (ray-sat-v1:10), Compute config (kk-rs-config-for-emmy), and Cloud (anyscale_default_cloud (aws, us-west-2)). At the bottom is a "Terminal" section.

View
modules
here



Meet me
here!

The screenshot shows a JupyterLab interface on a Mac OS X system. On the left, there's a file browser window titled 'emmy-ray-saturday' showing a folder named 'Introductory_modules' containing two files: 'Introduction_to_Ray.ipynb' and 'Overview_of_Ray.ipynb'. The 'Overview_of_Ray.ipynb' file is selected and highlighted with an orange border. A large black arrow points from the text 'Meet me here!' towards this selected file. On the right, the main JupyterLab area displays the content of the selected notebook, titled 'Overview of Ray'. It features the Ray logo (a blue hexagonal icon with white dots) and the title 'Overview of Ray'. Below the title, there are sections for 'About this notebook', 'Is it right for you?', 'Prerequisites', and 'Learning objectives', each containing descriptive text and bullet points. At the bottom of the JupyterLab interface, the status bar shows 'Python 3 (ipykernel) | Initializing' and 'Mode: Command'.

File Edit View Run Kernel Tabs Settings Help

/ Introductory_modules /

Name	Last Modified
Introduction_to_Ray.ipynb	19 hours ago
Overview_of_Ray.ipynb	19 hours ago

Launcher Overview_of_Ray.ipynb

JupyterLab Python 3 (ipykernel)

Overview of Ray

 RAY

About this notebook

Is it right for you?

This is an introductory notebook that gives a broad overview of the Ray project. It is right for you if:

- you are new to Ray and look for a project primer
- you are interested in how you can use Ray – Python first distributed computing library – to scale your Python applications and accelerate machine learning workloads

Prerequisites

For this notebook you should have:

- practical Python and machine learning experience
- no prior experience with Ray or distributed computing

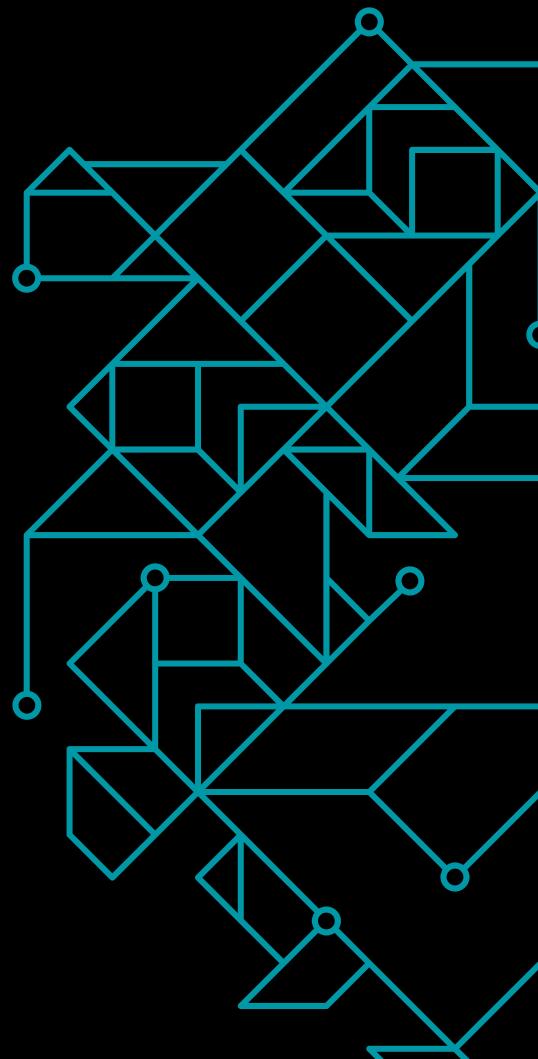
Learning objectives

Upon completion of this notebook, you will know about:

- what is Ray?
- key Ray characteristics

0 0 Python 3 (ipykernel) | Initializing Mode: Command Ln 1, Col 1 Overview_of_Ray.ipynb

What's next for Ray community?







What does an open source community mean to you?

What do “we” hope to accomplish with a community?

What makes a community successful?

Value

- Useful communities create *value*

Engagement

- Engaged communities foster relationships beyond *value*

Shared vision

- Successful communities accomplish a *shared vision*



Aspired Growth & Activities for Ray Community ... 2023

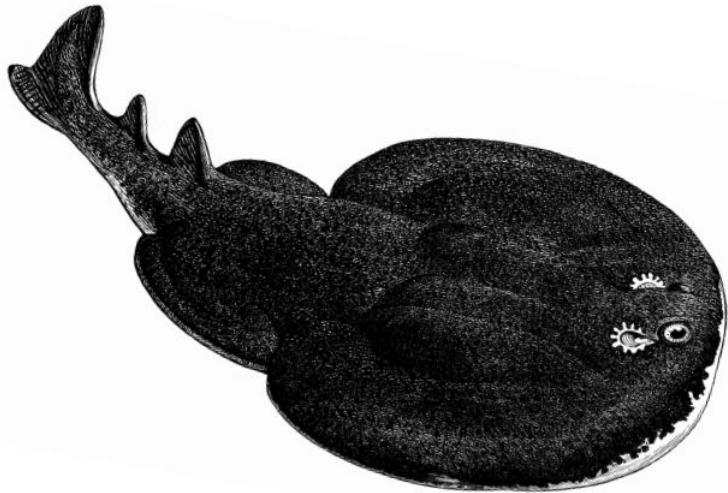


- Ray Summit 2023
- Ray Saturdays and more training tutorials....
- Ray AMAs + Office hours
- Ray talks/tutorials at major ML/AI/Python conferences

O'REILLY®

Learning Ray

Flexible Distributed Python for Machine Learning



Max Pumperla,
Edward Oakes
& Richard Liaw

O'REILLY®

Scaling Python with Ray

Adventures in Cloud and Serverless Patterns



Holden Karau &
Boris Lublinsky

Foreword by Robert Nishihara

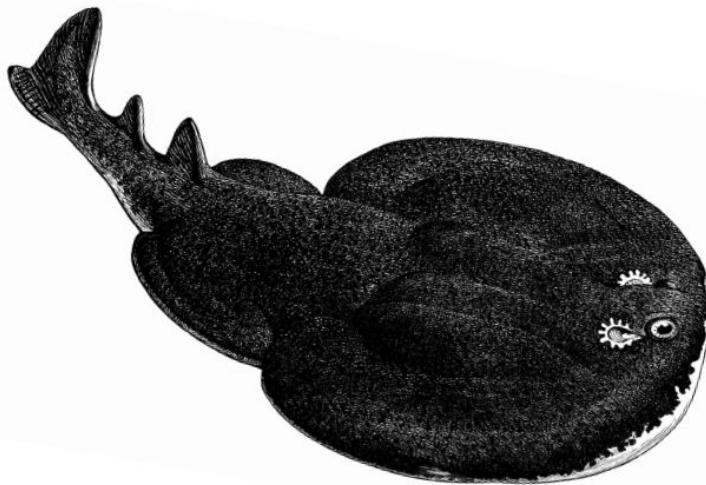
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Learning Ray

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& Richard Liaw

<https://learning.oreilly.com/get-learning/?code=RAY23>

- 30 Days of free reading #30DayOfRay
- Publish date May 2023
- Chapter notebooks:
https://github.com/maxpumperla/learning_ray

Connect with Ray Community

<https://www.ray.io/community>



GitHub

Follow the project, track issues, file bugs and feature requests, or contribute code.

[Follow the project →](#)



Discussion forum

Join the forum to get technical help and share best practices and tips with the Ray community.

[Join the forum →](#)



Slack

Connect with other users and project maintainers on the official Ray Slack channel.

[Chat with other users →](#)



Newsletter

Subscribe to the monthly Ray newsletter to get curated updates delivered to your inbox.

[Sign up for updates →](#)



Twitter

Follow @raydistributed on Twitter to stay informed on the latest news and updates.

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Thank you!

