GDG Cloud Gandhinagar

Study

ML Study Jams (V2)

Organizer Guide

ML Developer Programs

What is an ML Study Jam?

A Community Event

ML Study Jam is a learning opportunity leveraging accessible learning resources - Kaggle Learn, ML books, and free online courses. It includes hands-on assignments, tutoring, tech talks and group discussions. This is a great opportunity to bring members of your community together and to get started with ML.

Anyone can start the program anytime. No registration is required.

Study

How does ML Study Jams work?

ML Study Jam is a collective learning program helping community members to grow as ML practitioners. The idea is to go through basic ML concepts and share the knowledge in a community. By honing skills and enhancing capabilities, a beginner can start one's journey to becoming an ML expert.

There are 3 tracks to choose from depending on a community's preference and circumstances. It is recommended to host tracks sequentially AND/OR to proceed with combined tracks. You can adjust the length of the schedule and coordinate adequate resources (preferred books or online courses) for your group's members.

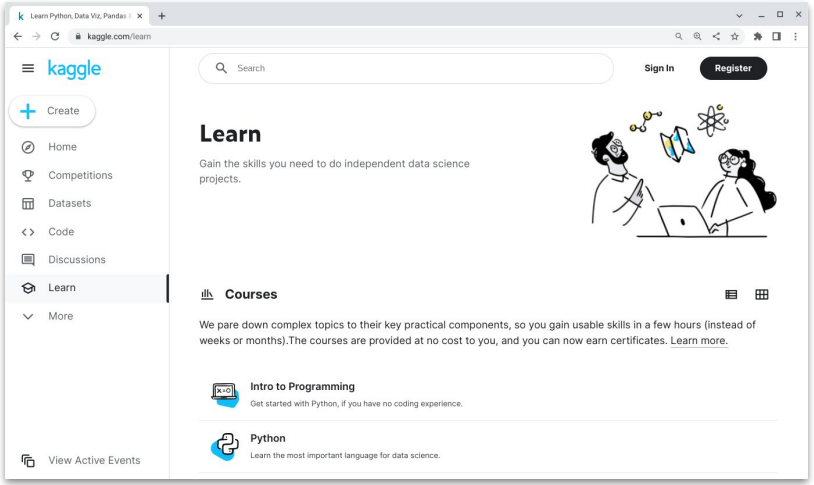
Be prepared to roll up your sleeves. Let's get started with ML Study Jam =)

Study

Track #1 - Study with Kaggle Learn

Kaggle is the world's largest data science and machine learning community. It offers a no-setup, customizable Jupyter Notebooks environment, access to free GPUs, and a huge repository of community-published data & code.

Track #1 is a study program going through Kaggle Learn courses. The goal of these assignments is to cover the most essential skills rapidly. Such as how to use TensorFlow or Pandas and how to build your first machine learning model.



Study

Track #1 - Schedule and resources:

Week 1

- Intro to Machine Learning
- Pandas

Week 2

- Intermediate Machine Learning
- Feature Engineering

Week 3

- Intro to Deep Learning
- Computer Vision

Week 4

- Time Series
- Intro to AI Ethics

Study

Track #1 - Rewards / Digital badges

Everyone who finishes a Kaggle Learn will receive a completion certificate.

You can find your certificates by navigating to the Learn page: https://www.kaggle.com/learn

- Click on the [Your Completed] tab.
- Use the [View Certificate] button to get your certificate!
- If you'd like to share the certificate with your social network, you can begin by downloading the image with the [Download certificate] button that appears at the bottom of your certificate.

Study

Track #2 - Study with ML books

Reading is one of the best ways to understand the foundations of ML and deep learning. Books can give you the theoretical understanding necessary to help you learn new concepts more quickly in the future.

The list of books:

- **AI and Machine Learning for Coders** by Laurence Moroney
- **Deep Learning with Python** by François Chollet
- **Hands-on Machine Learning with Scikit-Learn, Keras, and TensorFlow** by Aurélien Géron
- **Deep Learning** (free) by Ian Goodfellow, Yoshua Bengio, Aaron Courville
- **Neural Networks and Deep Learning** (free) by Michael Nielsen

* The list is extracted from Learn ML page in the TensorFlow blog by the TensorFlow team. For more information and further recommendations, refer to the link.

Track #2 - Example schedule:

	Date & Time	Reading Amount	Weekly Leader
Week 0	*202X.XX.XX P.M*	Announcement / Orientation (This can be done prior to session 1)	*Facilitator (Maybe yourself)*
Week 1	*202X.XX.XX P.M.*	Discussions) 1 or 2 chapters of a book	*Name*
Week 2	*202X.XX.XX P.M.*	Discussions) 1 or 2 chapters of a book	*Name*
Week 3	*202X.XX.XX P.M.*	Discussions) 1 or 2 chapters of a book	*Name*
Week 4	*202X.XX.XX P.M.*	Discussions) 1 or 2 chapters of a book	*Name*
Week 5	*202X.XX.XX P.M.*	Q&A session by a facilitator or a volunteer	*Name*
Week 6	*202X.XX.XX P.M.*	Discussions) 1 or 2 chapters of a book	*Name*
Week 7	*202X.XX.XX P.M.*	Discussions) 1 or 2 chapters of a book	*Name*
Week 8	*202X.XX.XX P.M.*	Discussions) 1 or 2 chapters of a book	*Name*
Week 9	*202X.XX.XX P.M.*	Discussions) 1 or 2 chapters of a book	*Name*

Study

* This is a sample schedule. Feel free to personalize it to your community.
* For extensive readings, all participants require to read a book before a reading session.

Track #3 - Study with free online courses

Online course is a good way to learn the basic concepts of ML. Many courses provide great visual explainers, and the tools needed to start applying machine learning directly at work, or with your personal projects.

The list of free online courses:

- **Machine Learning Foundations** (10 lectures)
- **Machine Learning for Web Developers (Web ML)** (34 lectures)
- **Intro to TensorFlow for Deep Learning** (11 chapters including an introduction)
- **Machine Learning Crash Course** (18 lectures introducing basic concepts)
- **MIT 6.S191 Introduction to Deep Learning** (53 lectures)
- **Generative AI Solutions on Google Cloud** (7 lectures)
- **Generative AI learning path** (10 course)

* Some of the list are extracted from Learn ML page in the TensorFlow blog by the TensorFlow team. For more information and further recommendations refer to the link.

Track 3 - Example schedule:

	Date & Time	Reading Amount	Weekly Leader
Week 0	*202X.XX.XX P.M*	Announcement / Orientation (This can be done prior to session 1)	*Facilitator (Maybe yourself)*
Week 1	*202X.XX.XX P.M.*	Discussions and Q&A about a certain amount of a lecture	*Name*
Week 2	*202X.XX.XX P.M.*	Discussions and Q&A about a certain amount of a lecture	*Name*
Week 3	*202X.XX.XX P.M.*	Discussions and Q&A about a certain amount of a lecture	*Name*
Week 4	*202X.XX.XX P.M.*	Discussions and Q&A about a certain amount of a lecture	*Name*
Week 5	*202X.XX.XX P.M.*	Tech-talk by a facilitator or a volunteer presenter	*Name*
Week 6	*202X.XX.XX P.M.*	Discussions and Q&A about a certain amount of a lecture	*Name*
Week 7	*202X.XX.XX P.M.*	Discussions and Q&A about a certain amount of a lecture	*Name*
Week 8	*202X.XX.XX P.M.*	Discussions and Q&A about a certain amount of a lecture	*Name*
Week 9	*202X.XX.XX P.M.*	Discussions and Q&A about a certain amount of a lecture	*Name*

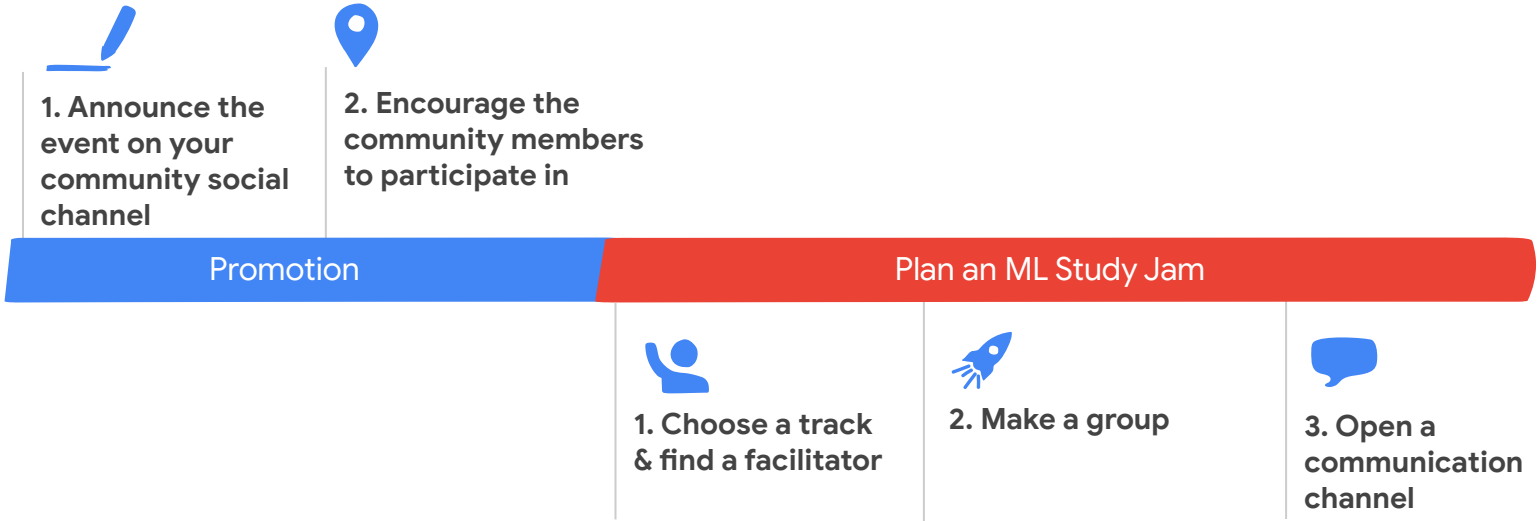
Study

* This is a sample schedule. Feel free to personalize it to your community.
* For extensive discussion, all participants require to listen lectures before a session.

Organizing an ML Study Jam

Study

How to organize an ML Study Jam?

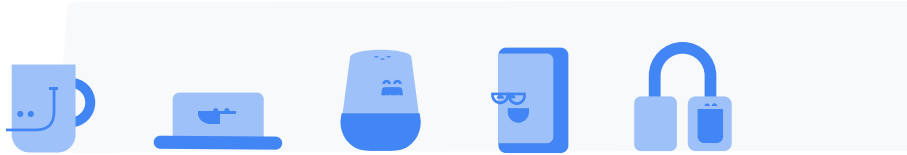


Study

Promotion

Promotional steps

1. **Name your event in this format for wider recognition**
    - ML Study Jam - *Your group name or region name*
2. **Announce the event on your community social channel**
    - Spread the word about this program via your social channel.
3. **Encourage the community members to participate in**
    - Encourage participation by introducing the benefits of participating in this program.



Study

Promotion

Advantage of the community participation

- **Upskilling** ML knowledge of community members
- **Motivation** by gathering and studying together
- **Learning more than** the curriculums through **hosting events** (techtalk, mentoring... etc.)
- **A strong connection** between community members with study together
- **Get digital badges** after completing Track 1

Study

Plan an ML Study Jam

1. Find a facilitator

Identify a facilitator who leads the study together. We recommend the community organizers take the lead. But if that's not viable, find someone from the community who's passionate about hosting an ML Study Jam.

The facilitator's role

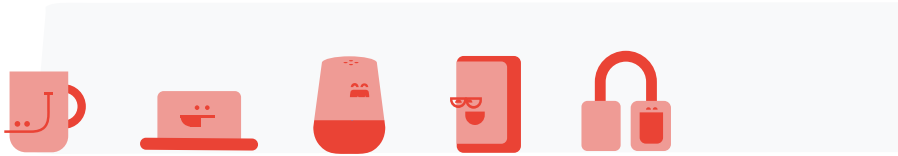
- An instructor who leads the trainings & discussions.
    - Making a study group in the community to study together
    - Host online events: study room, mentoring, technical discussions...

Study

Plan an ML Study Jam

2. Make a study group

Promote the program to the community members and let the facilitator (maybe yourself) get people to study with. Share the information about “ML Study Jam” and encourage them to join the program.



Study

Plan an ML Study Jam

3. Open a communication channel

Open **your own** communication channels for group announcements and Q&A.

If your community has a local language other than English, this channel will be helpful for communicating.

How to operate?

- Create a chat room on your community platform if you have one, open a communication channel, or share a document with the attendees. Choose a platform that suits your community.
- Encourage the participants to share what they have studied during an ML Study Jam. And let the people ask questions when they have.

During the program, what should I do?

1. Study together online

2. Host technical discussion

3. Regular check-in

Host a virtual event

1. Study together online

This online-oriented program suggests that the participants study by themselves. Studying with others is a more effective way to master courses sometimes, therefore, we recommend learning together online.

How to operate?

- Set a schedule
- Virtually gather on a video call (such as Google Meet, Zoom, etc.)
- Make sure the participants turn on the camera so you can see if they are focused on the class
- Encourage Q&A

Study

Host a virtual event

2. Tech-talk/ mentoring with ML professionals

Host insightful talks to encourage participants. Invite experts such as ML GDEs and machine learning experts to get help while studying. We recommend finding local mentors. Communicating in your native language increases the effectiveness of communication.

How to operate?

- Contact to machine learning experts of your region, and ask them to give an insightful talk or mentoring to your community
- Host events
- Topic suggestions: 1) Python and ML, 2) Jupyter Notebooks and Pandas, 3) Datasets ...

Host a virtual event

3. Regular check-in

Meet regularly to check the course and encourage each other so that participants stay energized by learning. With regular check-in, all participants can successfully complete the course.

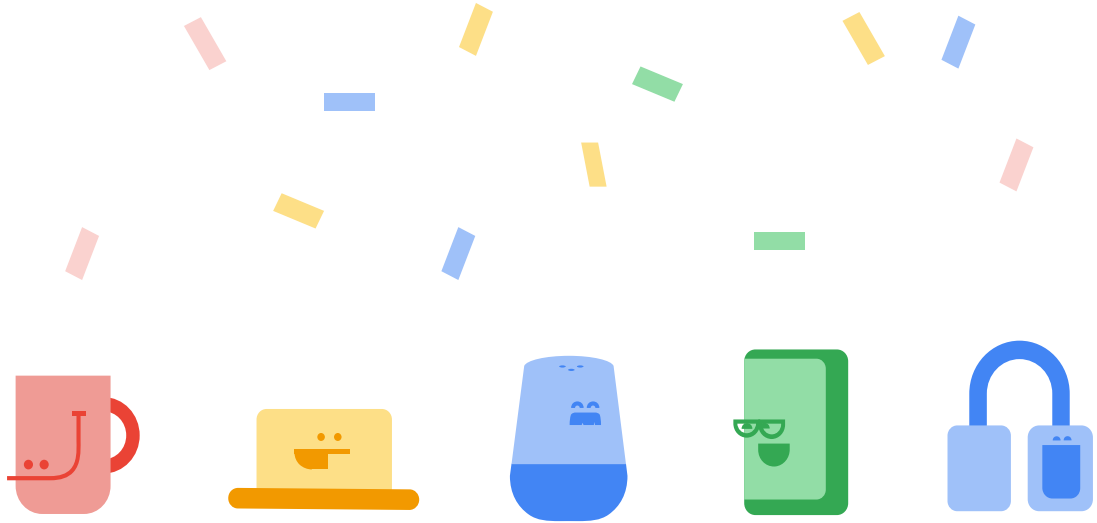
How to operate?

- Set a schedule (Recommend meeting once a week)
- Virtually gather on a video call (such as Google Meet, Zoom, etc.)
- Check how many participants take a course as the recommended schedule
- Get feedback & questions and have a discussion

Study

When I complete the course,
what should I do?

Congratulations!



Study

After the coursework

Report your event

The activities that you have will be considered your group's activity. So please report each event after the events.

- GDG: Report using the site
- GDSC: Report using the site
- TFUG & ML communities: Report to the form

Study

After the coursework

Take the next step!

What's next?

Continue the journey to ML mastery! We suggest that you try to follow the steps after you finish the coursework.

- **Practice!** You may start off with these challenges at Kaggle.
  - Titanic challenge / House Prices competition / Digit Recognizer competition
- **Get certified!** Study hard and get one of the Google ML engineering certificates.
  - TensorFlow certificate / GCP Professional ML Engineer certification
- **Be an expert!** Step up and be an ML GDE (Machine Learning Google Developers Experts)!

Study

After the coursework

Take the next step!

- **Expand your knowledge at Google Dev Library!**

  Dev Library showcases open-source projects and blog posts built with Google technologies. Let's explore open-source projects and read articles created by communities curated by Google engineers.

  - devlibrary.withgoogle.com

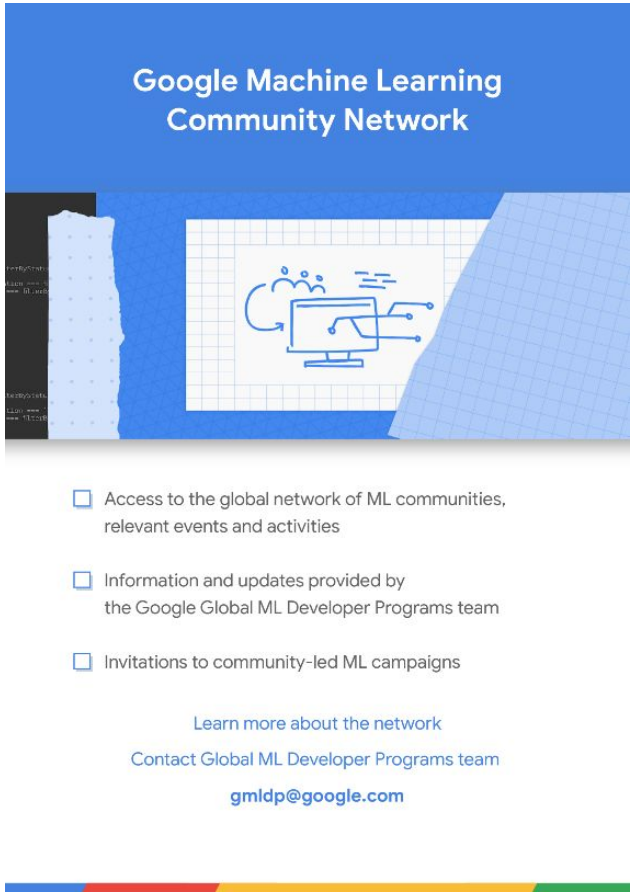
Study

Join the Google ML Community Network!

Are you interested in connecting with like-minded communities who are passionate about machine learning? We are happy to invite you and your group to join the network and contribute to the growing pool of talent. Please come, share your knowledge & experiences, and get inspired by others. We look forward to connecting with you!

See the details here. You can join right away by filling out this form: https://goo.gle/MLnetwork

*If you are an ML GDE or a TFUG organizer, you are already a part of the network. There is no need to join again. =)



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That’s a wrap.

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Question & Suggestion?

Let us know! gmldp@google.com

Join the Community