

Technical Advisory Council Meeting

April 9, 2020

 THE **LINUX** FOUNDATION

 **LF AI**

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Recording of Calls

Reminder that TAC calls are recorded and available for viewing on the [TAC Wiki](#)

Reminder: LF AI Useful Links

Web site: lfai.foundation
Wiki: wiki.lfai.foundation
GitHub: github.com/lfai
Landscape: landscape.lfai.foundation or l.lfai.foundation
Mail Lists: <https://lists.lfai.foundation>

LF AI Logos: <https://github.com/lfai/artwork/tree/master/lfai>

LF AI Presentation Template:

https://drive.google.com/file/d/1eiDNJvXCqSZHT4Zk_-czASlz2GTBRZk2/view?usp=sharing

Events Page on LF AI Website: <https://lfai.foundation/events/>

Events Calendar on LF AI Wiki (subscribe available):

<https://wiki.lfai.foundation/pages/viewpage.action?pageId=12091544>

Event Wiki Pages: <https://wiki.lfai.foundation/display/DL/LF+AI+Foundation+Events>

Agenda

- › Roll Call
- › Approval of Minutes
- › TAC Chairperson Election Kickoff
- › Proposal on Interop Committee
- › TrustedAI Committee Update
- › LF AI Updates
- › Upcoming TAC Meetings
- › Open Discussion

TAC Voting Members

Member	TAC Contact	TAC Email
Amdocs	Ofer Hermoni*	oferher@gmail.com
AT&T	Jack Murray	jfm@research.att.com
Baidu	Daxiang Dong	dongdaxiang@baidu.com
Ericsson	Rani Yadav-Ranjan	rani.yadav-ranjan@ericsson.com
Huawei	Huang Zhipeng	huangzhipeng@huawei.com
Nokia	Pantelis Monogioudis	pantelis.monogioudis@nokia.com
Tech Mahindra	Nikunj Nirmal	nn006444@techmahindra.com
Tencent	Juniping Du	junipingdu@tencent.com
Zilliz	Jun Gu	jun.gu@zilliz.com
ZTE	Wei Meng	meng.wei2@zte.com.cn
Acumos AI Project	Anwar Aftab	anwar@research.att.com
Angel Project	Bruce Tao	brucetao@tencent.com
ONNX Project	Prasanth Pulavarthi	prasanth.pulavarthi@microsoft.com

Approval of Minutes

- › Draft minutes from the March 26th, meeting of the TAC were previously distributed to the TAC members
- › **Proposed Resolution:**
 - › That the minutes of the March 26th meeting of the Technical Advisory Council of the LF AI Foundation are hereby approved

TAC Chairperson Election Kickoff

TAC Chairperson Election Kickoff via Email After Meeting

› **Timeline:**

- › ***Begin nomination period:*** Today, April 9th, nominations include a short bio + statement
 - › ***End nomination period:*** Thursday, April 16th at 12 pm Pacific Time
 - › ***LF to send slate of respective nominees and voting instructions to TAC Voting Members*** - Hold election via [CIVS](#) if there are multiple nominees or via email, as applicable: Friday, April 17th
 - › ***Voting period ends:*** Friday, April 24th at 12 pm Pacific Time
 - › ***Election winner announced:*** Monday, April 27th
-
- › **General TAC and Chairperson details can be viewed within the LF AI Charter under section 7 [here](#) - A summary of the role:**
 - › Represent the TAC as a voting member on the Governing Board (will attend monthly meeting)
 - › Lead TAC agenda and meetings with coordination among the TAC representatives and broader community
 - › Attend sync meetings with LF AI staff to discuss overall TAC activities and planning
 - › General representation of the TAC and the LF AI technical community

Interop Committee Proposal

Zhipeng “Howard” Huang, zhipengh512@gmail.com



LFAI Interop Committee Proposal

Zhipeng Huang





Overview

With recent development of the [Pyro](#) project, an incubation project of [LF AI Foundation](#), Julia and MindSpore, it has become evident that AI native programming is the next trend in deep learning framework development. Gone with the old days that mathematical libraries were added to existing engineering toolsets, data scientists will more and more likely to use their familiar toolset with more engineering capability added. AI developers should be able to write the models as the mathematical format without a steep learning curve of software engineering





Problems to solve

1

Northbound Interoperability when the AI Native programming framework is adopted for applications in different areas.

2

Southbound Interoperability when the AI Native programming framework is used on various compute and storage backends

3

Framework Interoperability when traditional deep learning frameworks need to be supported or transformed. (ONNX)

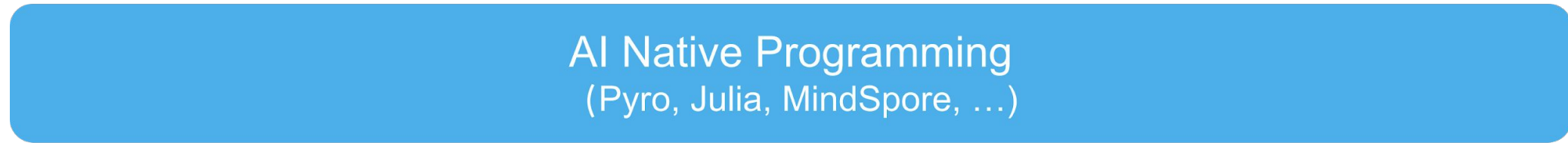
4

Build Interoperability when various types of deployment could be reproducible on different pipelines. (Kubeflow)

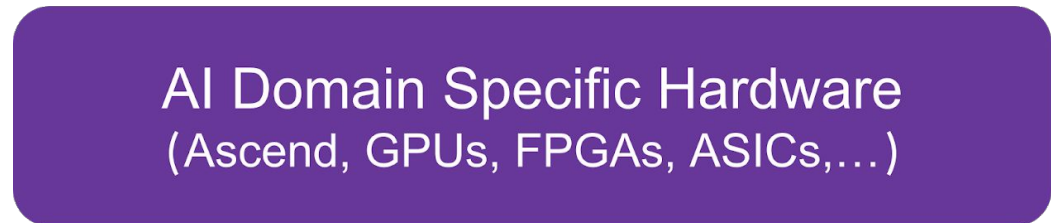
Interop Landscape



Northbound: Interop Among Frameworks (IR, Crypto, Type System, Metadata ...)



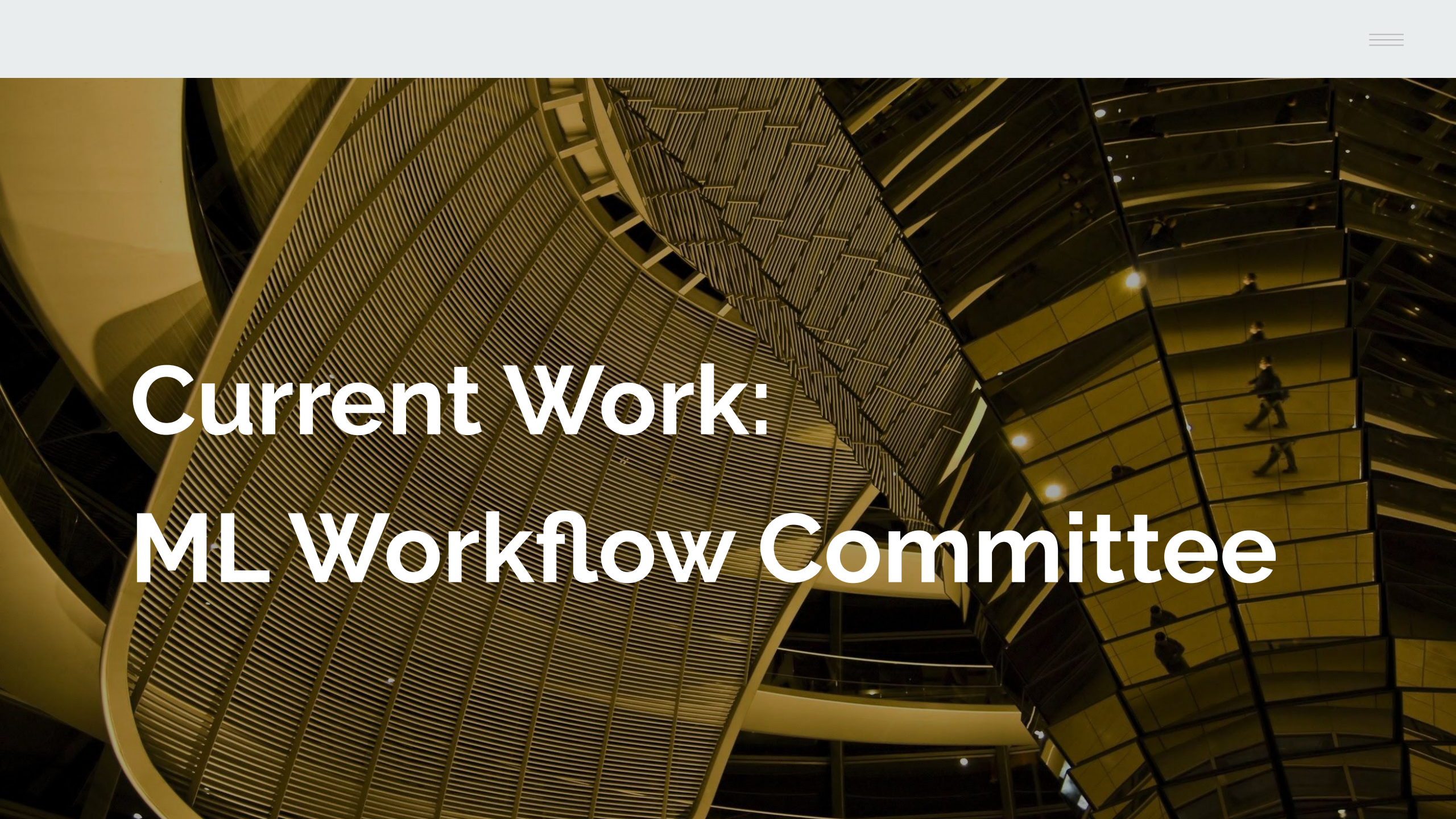
Southbound: Interop Between Frameworks and Backends





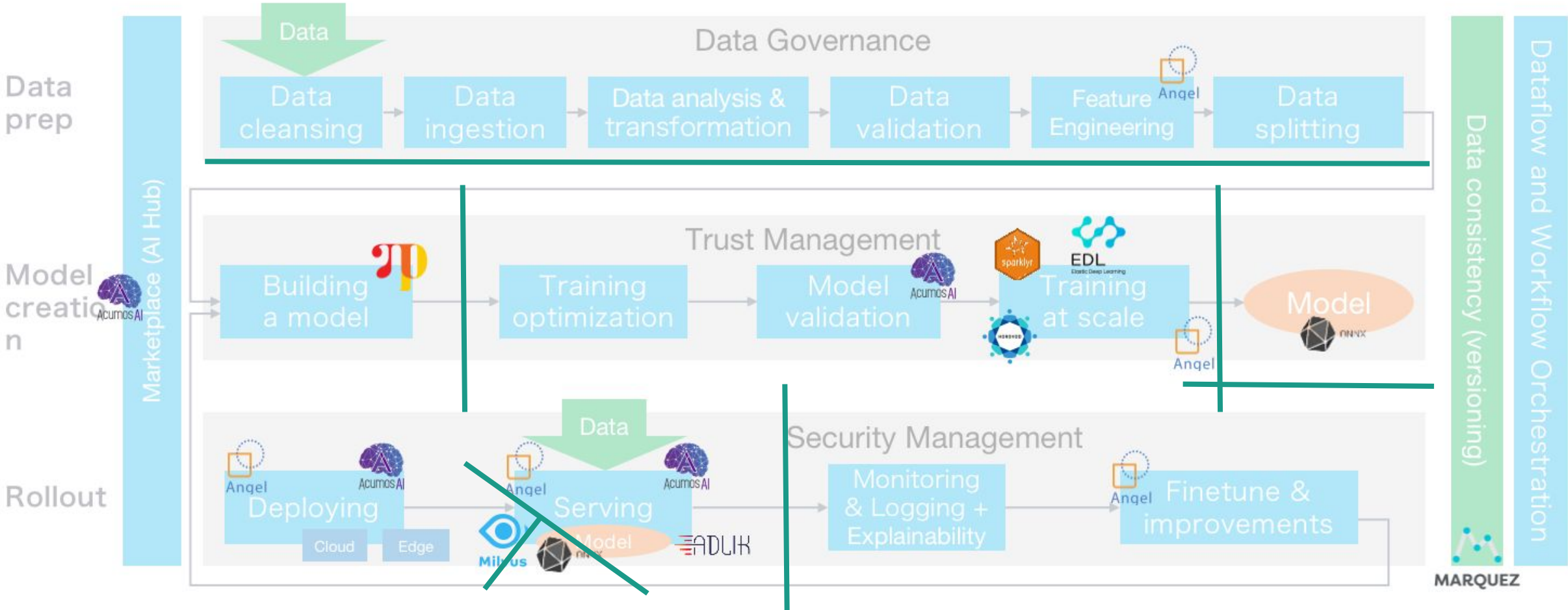
Proposal

We propose LFAI to either create a new committee or adapt an existing one to address the interoperability issue.

A photograph of a modern building's interior, featuring a large, curved, multi-level atrium with a complex, geometric ceiling structure. The space is illuminated with warm, golden light, and several people can be seen walking on the upper levels.

Current Work: ML Workflow Committee

ML Workflow Committee - LFAI Stack



A photograph of a modern building's interior, featuring a large, curved atrium with multiple levels of balconies. The balconies are illuminated with warm, golden light, and the architecture is characterized by a grid of dark metal railings and glass panels. Several people are visible walking on the balconies, adding a sense of scale and activity to the scene.

Proposed Work: Interop Committee



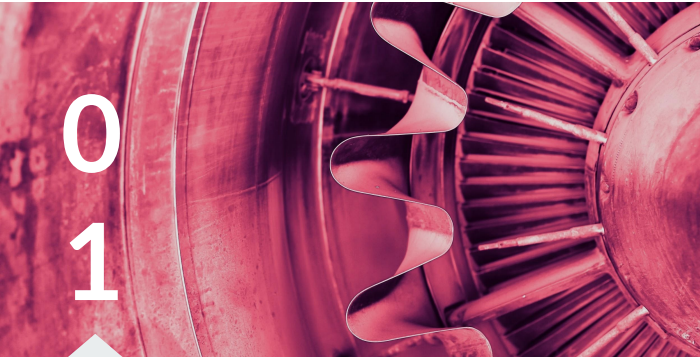
Interop Committee

Address the northbound and southbound interoperability problem and work with LFAI community at large to solve framework and build interoperability issue

- 01 | Identify the gaps
- 02 | cross community discussion
- 03 | upstream gap-fulfilling development
- 04 | interop specification
- 05 | joint proof of concept



Process (driven by cross community discussion)



Upstream Development



Spec Drafting



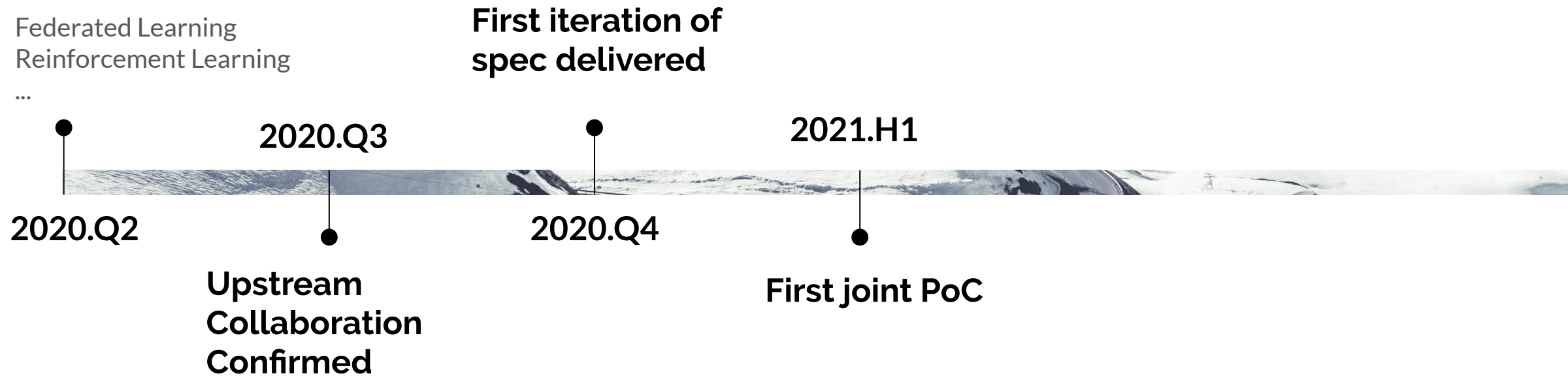
Joint PoCs

Timeline



First set of gaps identified

- Federated Learning
- Reinforcement Learning
- ...





Proposal For TOC

- Create Interop Committee, or
- Expand ML Workflow Committee's scope to address Interop issue (ML Workflow & Interop Committee ?)



Thank you.



Trusted AI Committee Update

Animesh Singh, singhan@us.ibm.com

TAC - Trusted AI Committee

- › **Leadership:** Animesh Singh (IBM), Souad Ouali (Orange), and Jeff Cao (Tencent)
- › **Goal:** Create policies, guidelines, tooling and use cases by industry
- › **Github:** <https://github.com/lfai/trusted-ai>
- › **Wiki:** <https://wiki.lfai.foundation/display/DL/Trusted+AI+Committee>
- › **To participate:** <https://lists.lfai.foundation/g/trustedai-committee/>
- › **Next call:** Bi-weekly on Thursdays at 7am PT, subscribe to group calendar on wiki <https://wiki.lfai.foundation/pages/viewpage.action?pageId=12091895>

Trusted AI Updates

Technical Working Group:

AI Fairness 360: MLOps Section created

Kubeflow Integration

<https://github.com/IBM/AIF360/tree/master/mlops/kubeflow>

Apache Nifi Integration:

<https://github.com/IBM/AIF360/tree/master/mlops/nifi>

Other work contributed:

SKLearn API support for AIF360

<https://github.com/IBM/AIF360/tree/master/aif360/sklearn>

Adversarial Robustness 360: MLOps Section created

Kubeflow Integration

<https://github.com/IBM/adversarial-robustness-toolbox/tree/master/mlops>

Ongoing Work:

- AIF360 and R integration– Targeting R community
- Acumos and AIF360 Collaboration
- KFServing and Trusted AI Projects integration (AIF360, ART, AIX360)
- AIF360 and Google Fairness Indicators discussion

Principles Working Group:

Materials submitted to Trusted AI Committee from

- Orange (document draft 4.1 dated 12 August 2019)
- AT&T (Working Draft Artificial Intelligence Operating Principles Under Development version dated Nov 7, 2019)

--- TenCent (Jeff Cao - Tencent Research Institute - slides)

--- IBM (

<https://wiki.lfai.foundation/display/DL/Trusted+AI+Committee#TrustedAICommittee-Assets>)

--- Institute of Ethical AI

<https://github.com/EthicalML/awesome-artificial-intelligence-guidelines>,

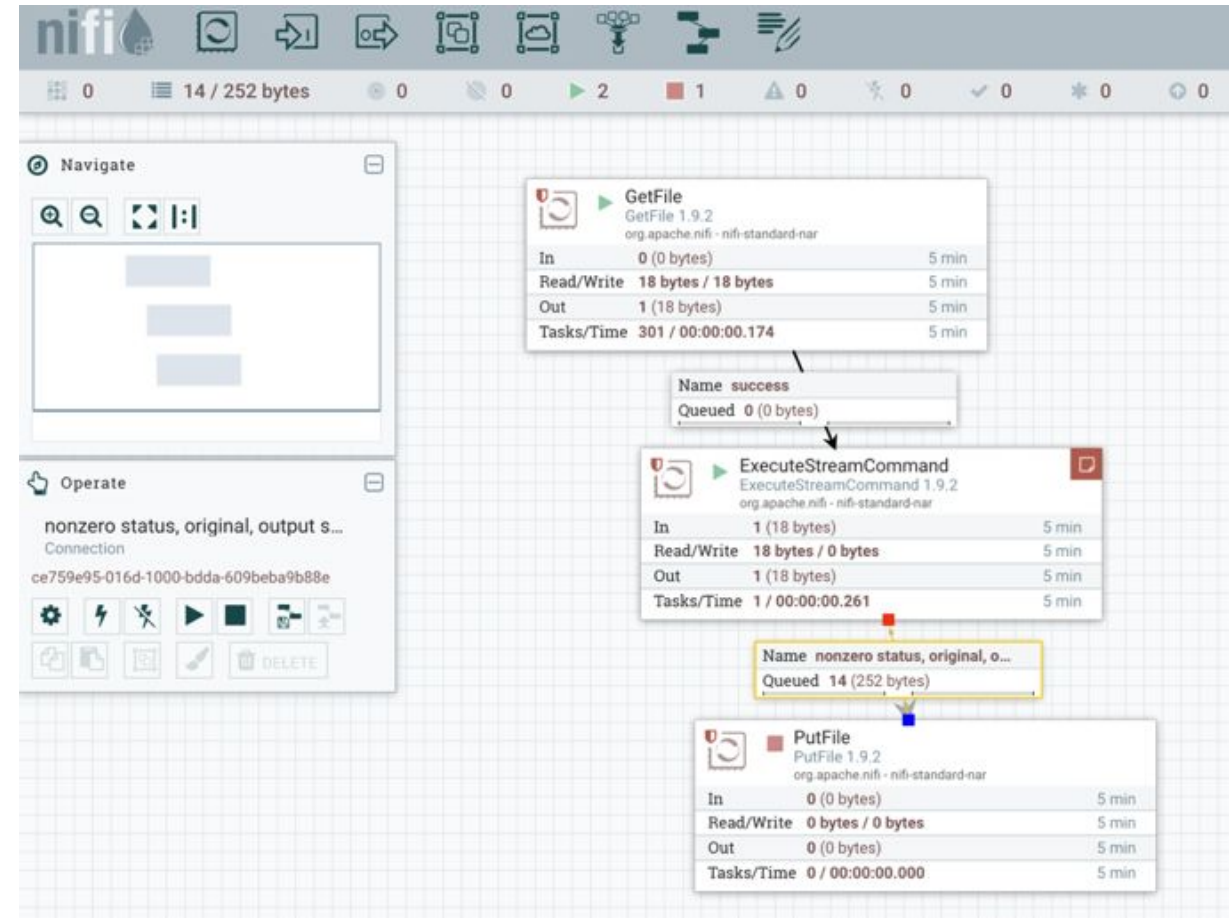
<https://ethical.institute/>

Upcoming Work::

- Create an LFAI Principle document outlining, among other things-
- scope - who creates AI - humans or machines/AIs
 - bias in definitions
 - consider how to organize principles - perhaps in a hierarchy
 - particular contribution of document: linking principles to implementation; incorporating global principles and thinking, linking to business through use cases
 - more on correlation to business e.g., how explainability links to business (edited)

Technical Working Group: MLOps

- MLOps extensions in Trusted AI libraries
- This contains designs, specifications, shared code and processes that meet the following goals:
 - Enable integration between MLOps Pipelines and AIF360/ART etc e.g. **Kubeflow Pipelines** working with AIF360, **Apache Nifi** working with AIF360
 - Enable Trusted AI projects to be surfaced in ML Platforms e.g. Acumos, KFServing
 - Enable support structure for this code to be maintained and tested



Principle Working Group - Executive Summary

LF AI Trusted AI Principles:

- Identified 6 principles, which were abstracted from existing initiatives, and have been structured to be relevant for any open source projects
- Agreed that principles will focus “beyond the algorithms” into the OSS governance process



Document with full details on each principle:

<https://docs.google.com/document/d/1t03G7JOc1KpzzX7KyZq0YHsg2yCZaTqV4OZodVqHsjM/edit>

Next steps:

- Align with broader LF AI Trusted AI Committee with the proposed LF AI Trusted AI Principles
- Identify potential areas for application of LF AI Trusted AI Principles such as:
 - Case studies of alignment of existing projects with the Principles
 - Incubating / graduation project assessment with the Principles
- Create checklist that would allow parties to evaluate OSS projects with the LF AI Trusted AI Principles

LF AI Updates

Project Updates

New Project: ForestFlow

ForestFlow is a scalable policy-based cloud-native machine learning model server. ForestFlow strives to strike a balance between the flexibility it offers data scientists and the adoption of standards while reducing friction between Data Science, Engineering and Operations teams.

- › **Approved by TAC:** March 26th, 2020
- › **Project Level:** Incubation
- › **Founded By:** Dreamworks
- › **Presenter(s):** Ahmad Alkilani, ahmad.alkilani@dreamworks.com
- › **Proposal:** <https://github.com/lfai/proposing-projects/blob/master/proposals/forestflow.adoc>
- › **Resources:**
 - › Github: <https://github.com/dreamworksanimation/ForestFlow>

Releases Coming Up

- › ONNX 1.7
 - › <https://github.com/onnx/onnx/releases>
- › Sparklyr 1.2
 - › <https://github.com/sparklyr/sparklyr/wiki/Releases>
- › Acumos Demeter
 - › <https://wiki.acumos.org/display/REL>

Project releases will be announced via a blog post and promoted on LF AI and LF social media accounts

Note: If you are an LF AI hosted project and would like LF AI to promote your release, reach out to pr@lfai.foundation to coordinate in advance (min 2 wks) of your expected release date. Please reach out for questions and more details.

Outreach Committee

Recent Announcements

1. **Welcome New LF AI Members Q1 2020:**
<https://docs.google.com/document/d/1P540-yNQ7VFyO3QfwlZpr-gl2UmtxQNUQB5Rzksi7qY/edit>
2. **Enabling the Open Source AI Native Ecosystem with an AI Specific Computing Framework:**
<https://lfaifoundation.com/blog/2020/04/06/enabling-the-open-source-ai-native-ecosystem-with-an-ai-specific-computing-framework/>
3. **Milvus Joins as New Incubation Project:**
<https://lfaifoundation.com/blog/2020/04/02/milvus-joins-lf-ai-as-new-incubation-project/>
4. **Happy 2nd Birthday LF AI:**
<https://lfaifoundation.com/blog/2020/03/18/happy-2nd-birthday-lf-ai/>
5. **LF AI Partnering with ITU AI/ML in 5G Challenge:**
<https://lfaifoundation.com/blog/2020/03/25/lf-ai-partnering-with-itu-ai-ml-in-5g-challenge/>
6. **LF AI Day ONNX Community Virtual Meetup:**
<https://lfaifoundation.com/blog/2020/03/16/lf-ai-day-onnx-community-virtual-meetup-silicon-valley-2020/>
7. **Pyro 1.3 Now Available:**
<https://lfaifoundation.com/blog/2020/03/13/pyro-1-3-now-available/>
8. **New Member Welcome - RStudio + inwinSTACK + ISSIP:**
<https://lfaifoundation.com/blog/2020/01/30/lf-ai-foundation-new-member-welcome-rstudio-inwinstack-issip/>
9. **Sparklyr New Project:**
<https://lfaifoundation.com/blog/2020/01/29/sparklyr-joins-lf-ai-as-its-newest-incubation-project/>

Upcoming Announcements

April:

ONNX 1.7 Release
Angel + Acumos Cross Project Collaboration
Marquez New Project
NNStreamer New Project
ForestFlow New Project
Sparklyr 1.2 Release
LF AI Day ONNX Virtual Meetup - Event Summary

May:

Pyro M5 Starter Kit - Kaggle Competition
Angel Roadmap + Project Participation Invite
Acumos Demeter Release
OSS NA - LF AI Booth Presence & AI Track Promotion

Help Amplify News via Social Networks

Follow LF AI via [Twitter](#) and/or [LinkedIn](#) and please help amplify LF AI news via your social networks - Please re-tweet and share

Please keep an eye out for news updates via tac-general mail list to help spread the word about announcements

LF AI Events

**Event Leads Needed - Please Encourage
Member Participation Across Your
Organizations**

Events Page on LF AI Website:

<https://lfai.foundation/events/>

Events Calendar on LF AI Wiki (subscribe available):

<https://wiki.lfai.foundation/pages/viewpage.action?pageId=12091544>

2020 Events Wiki:

<https://wiki.lfai.foundation/display/DL/2020+Events>

The [Outreach Committee](#) and LF AI Community need to identify Event Leads to drive these events as the Foundation is not resources/budgeted to manage them all. Please encourage participation within your organizations. LF AI provides [event planning templates/resources](#) and is available to help with guidance and questions along the way. Please email Jessica Kim (Outreach Committee Chair) at jessica.kim@huawei.com or contact LF AI staff at info@lfai.foundation to discuss participation.

Projects and Members- Please consider holding virtual events

Example: ONNX <https://lfai.foundation/event/lf-ai-day-onnx-community-virtual-meetup/>

LF AI Day ONNX Community Virtual Meetup

April 9 @ 9:00 am - 11:00 pm Free

IBM, ONNX, and the LF AI Foundation are pleased to sponsor the upcoming LF AI Day – ONNX Community Virtual Meetup – Silicon Valley 2020, to be held via Zoom on April 9th from 9am-12pm PT.

ONNX, an [LF AI Foundation Graduated Project](#), is an open format to represent deep learning models. With ONNX, AI developers can more easily move models between state-of-the-art tools and choose the combination that is best for them.

The virtual meetup will cover ONNX Community updates, partner/end-user stories, and SIG/WG updates. Check out the full agenda [here](#). If you are using ONNX in your services and applications, building software or hardware that supports ONNX, or contributing to ONNX, you should attend! This is a great opportunity to connect with and hear from people working with ONNX across many companies.

Registration is now open and the event is free to attend. Capacity will be 500 attendees. For up to date information on this virtual meetup, please visit the [event website](#).

+ GOOGLE CALENDAR

+ ICAL EXPORT

Details

Date:

April 9

Time:

9:00 am - 11:00 pm

Cost:

Free

Website:

<https://events.linuxfoundation.org/lf-ai-day-onnx-community-virtual-meetup/>

Venue

Zoom

Organizer

LF AI Foundation

Email:

info@lfai.foundation

Website:

<https://lfai.foundation>

LF AI Blog

<https://lfai.foundation/news/blog/>

Open call to publish project updates and initiative/committee updates on LF blog

Please reach out to OC chair (Jessica Kim) or LF AI Staff (Jacqueline or Ibrahim) to follow up on getting featured with your efforts

Call to Participate in Ongoing Efforts

Trusted AI

- › **Leadership:**
Animesh Singh (IBM), Souad Ouali (Orange), and Jeff Cao (Tencent)
- › **Goal:** Create policies, guidelines, tooling and use cases by industry
- › **Github:**
<https://github.com/lfai/trusted-ai>
- › **Wiki:**
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- › **Next call:** Bi-weekly on Thursdays at 7am PT, subscribe to group calendar on wiki
<https://wiki.lfai.foundation/pages/viewpage.action?pageId=12091895>

ML Workflow

- › **Leadership:**
Ofer Hermoni
- › **Goal:**
Define an ML Workflow and promote cross project integration
- › **Wiki:**
<https://wiki.lfai.foundation/display/DL/ML+Workflow+Committee>
- › **To participate:**
<https://lists.lfai.foundation/g/mlworkflow-committee>
- › **Next call:** Every 4 weeks on Thursdays at 7:00 am PT, subscribe to group calendar on wiki
<https://wiki.lfai.foundation/pages/viewpage.action?pageId=18481242>

Upcoming TAC Meetings

Upcoming TAC Meetings

April 23: TAC Sponsor Discussions + ODH Introduction

May 7: Ludwig Project Presentation + Proposal + TAC Vote

TAC Meeting Details

- › To subscribe to the TAC Group Calendar, visit the wiki: <https://wiki.lfai.foundation/x/XQB2>
- › Join from PC, Mac, Linux, iOS or Android: <https://zoom.us/j/430697670>
- › Or iPhone one-tap:
 - › US: +16465588656,,430697670# or +16699006833,,430697670#
- › Or Telephone:
 - › Dial(for higher quality, dial a number based on your current location):
 - › US: +1 646 558 8656 or +1 669 900 6833 or +1 855 880 1246 (Toll Free) or +1 877 369 0926 (Toll Free)
- › Meeting ID: 430 697 670
- › International numbers available: <https://zoom.us/u/achYtcw7uN>

Open Discussion

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