Meeting of the
Technical Advisory Council (TAC)

June 3rd, 2021

□LF AI & DATA

Antitrust Policy

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LF AI & DATA

Recording of Calls

Reminder:

TAC calls are recorded and available for viewing on the TAC Wiki

Reminder: LF AI & Data Useful Links

› Web site: lfaidata.foundation
› Wiki: wiki.lfaidata.foundation
› GitHub: github.com/lfaidata
› Landscape: https://landscape.lfaidata.foundation or https://l.lfaidata.foundation
› Mail Lists: https://lists.lfaidata.foundation
› Slack: https://slack.lfaidata.foundation
› Youtube: https://www.youtube.com/channel/UCfasaeqXJBCAJMNO9HcHfbA
› LF AI Logos: https://github.com/lfaidata/artwork/tree/master/lfaidata
› LF AI Presentation Template:
  https://drive.google.com/file/d/1eiDNJvXCqSZHT4Zk_-czASIz2GTBRZk2/view?usp=sharing
›
› Events Page on LF AI Website: https://lfaidata.foundation/events/
› Events Calendar on LF AI Wiki (subscribe available):
  https://wiki.lfaidata.foundation/pages/viewpage.action?pageId=12091544
› Event Wiki Pages: https://wiki.lfaidata.foundation/display/DL/LF+AI+Data+Foundation+Events

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Agenda

› Roll Call (1 min)

› Welcome new General Member - GSI Technologies (1 min)

› Approval of Minutes from May 20th (3 mins)

› Graduation Proposal (25 minutes)

   › Milvus (Jun Gu <jun.gu@zilliz.com>)

› Invited Presentation (15 minutes)

   › KOSA.AI (Layla Li <layla@kosa.ai>, Sonali Sanghrakja <sonali@kosa.ai>)

› Electing New TAC Chair (Jacqueline Cardoso) (5 minutes)

› Badging for Projects (Andre de Waal, Mandy Chessell) (5 minutes)

› Annual Project Review Schedule (Jim Spohrer) (2 minutes)

› LF AI General Updates (1 minutes)

› Open Discussion (1 minutes)

TAC Voting Members

* = still need backup specified on [wiki](#)

Board Member	Contact Person	Email
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Graduate Project	**Contact Person**	**Email**
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Angel	Bruce Tao	brucetao@tencent.com
Egeria	Mandy Chessell	mandy_chessell@uk.ibm.com
Horovod	Travis Addair*	taddair@uber.com
ONNX	Jim Spohrer (Chair of TAC)	spohrer@us.ibm.com
Pyro	Fritz Obermeyer*	fritz.obermeyer@gmail.com

LF AI & D

Welcome new member

LF AI & Data Member Company - General

Approval of May 6th, 2021 Minutes

Draft minutes from the May 20th TAC call were previously distributed to the TAC members via the mailing list

Proposed Resolution:

> › That the minutes of the May 20th meeting of the Technical Advisory Council of the LF AI & Data Foundation are hereby approved.

Graduation Proposal - Milvus

Jun Gu (Zilliz) <jun.gu@zilliz.com>

Project Graduation Proposal Review/Discussion/Vote: Milvus

Milvus is an open-source vector database built to power AI applications and embedding similarity search. Milvus makes unstructured data search more accessible, and provides a consistent user experience regardless of the deployment environment.

Milvus was released under the open-source Apache License 2.0 in October 2019.

Presenter: Jun Gu, Milvus Project Evangelist

Resources:
   Github: https://github.com/milvus-io/milvus
   LF AI & Data website: https://lfaidata.foundation/projects/milvus/
   Project Level Request to TAC: Graduation

LF AI & DATA
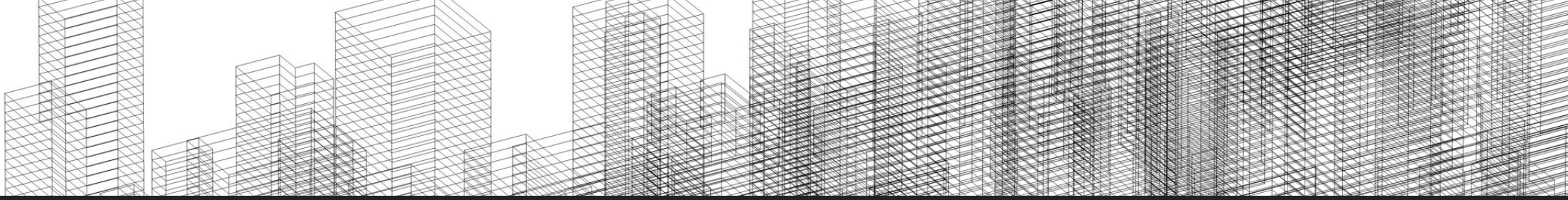
Milvus Project: 2021 Update and Request for Graduation

Jun Gu, Milvus project evangelist

Milvus Vector Database

- The embedding serving infrastructure for production AI applications
- Common application scenarios:
  - Computer vision: Content based image retrieval system, etc
  - NLP: Chat bot, document semantic search, etc
  - Personalized recommender system
  - Computational chemistry: molecular analysis
  - etc
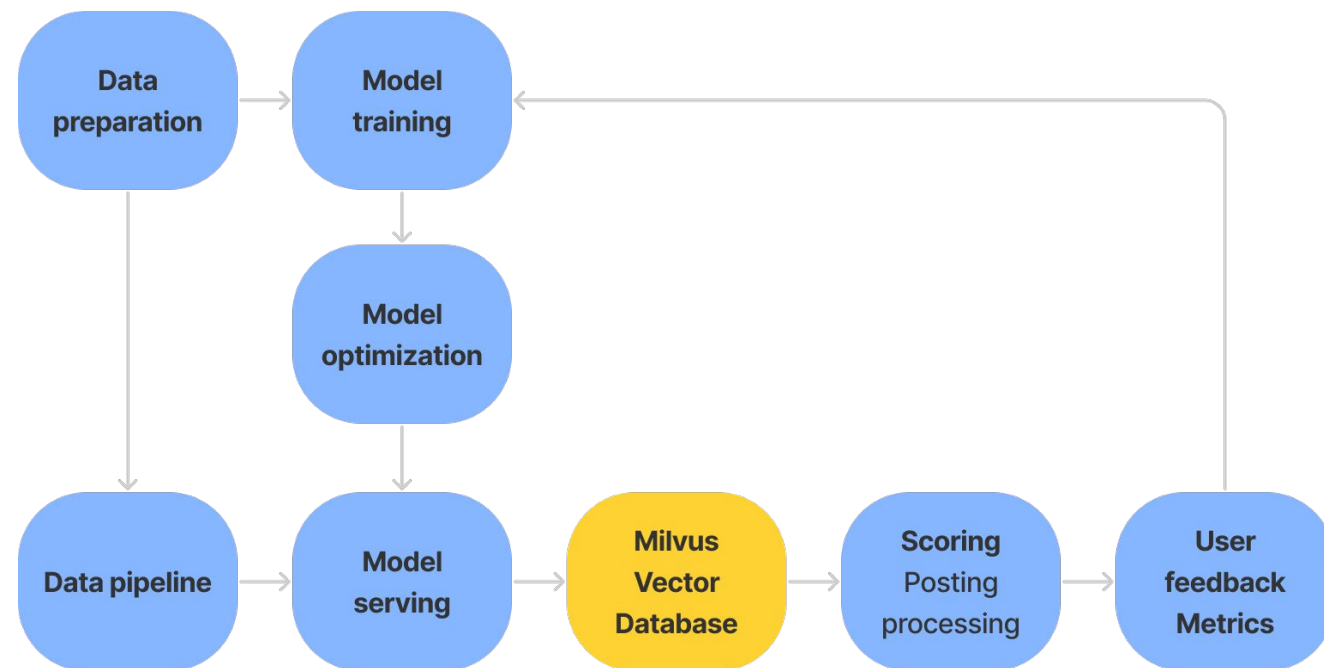
The graduation requirements

- Have a healthy number of code contributions coming from at least five organizations.
- Have reached a minimum of 1000 stars on GitHub.
- Have achieved and maintained a Core Infrastructure Initiative Best Practices Gold Badge.
- Have demonstrated a substantial ongoing flow of commits and merged contributions for the past 12 months*.
- Have completed at least one collaboration with another LF AI & Data hosted project.
- Have a technical lead appointed for the representation of the project on the LF AI & Data Technical Advisory Council.

Milvus community (till May 12th, 2021)

- Contributors: 137
  - Zilliz
  - Beike
  - iQiyi
  - Yandex
  - Montage Tech
  - Arkie
  - ...

- GitHub stars: 6.1K
- GitHub forks: 887
- Docker hub downloads: 320K
- Known community users: 2.3K
  - Slack: 700+
  - Wechat group: 1,700+

Star history

Best Practices Badge

https://bestpractices.coreinfrastructure.org/en/projects/3563
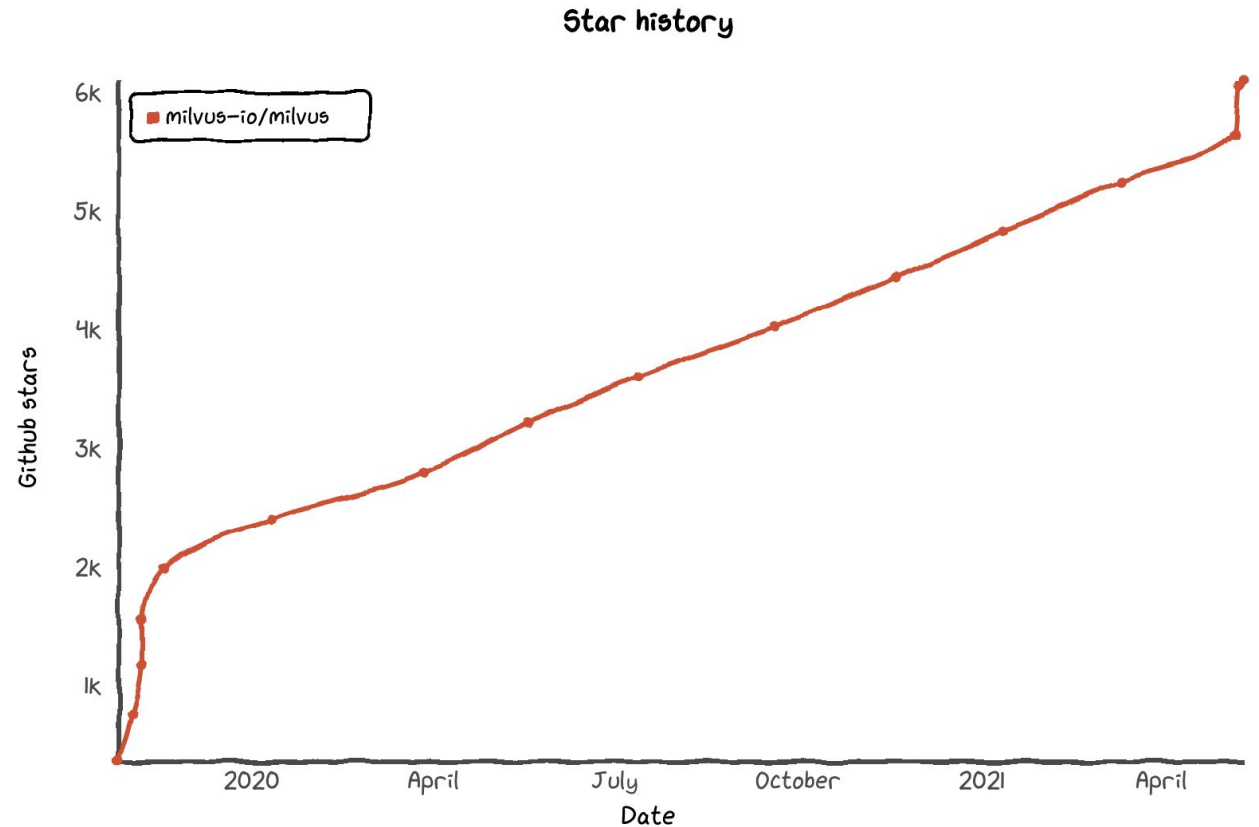
milvus

Expand panels | Show all details | Hide met & N/A

Projects that follow the best practices below can voluntarily self-certify and show that they've achieved a Core Infrastructure Initiative (CII) badge. Show details

If this is your project, please show your badge status on your project page! The badge status looks like this: cii best practices passing Here is how to embed it: Show details

These are the passing level criteria. You can also view the silver or gold level criteria.

❯ Basics	13/13 ●
❯ Change Control	9/9 ●
❯ Reporting	8/8 ●
❯ Quality	13/13 ●
❯ Security	16/16 ●
❯ Analysis	8/8 ●

Commit History

Mar 17, 2019 – May 6, 2021

Contributions: Commits ▾

Contributions to master, excluding merge commits and bot accounts

Governance and Procedures

- Contributors Guide

  https://github.com/milvus-io/milvus/blob/master/CONTRIBUTING.md

- Governance Information

  https://github.com/milvus-io/milvus/blob/master/COMMUNITY.md

Milvus Project Leader

Xiaofan, Luan

7 years working experience focused on open source database and big data system design. After graduation from Cornell university with a master degree, Xiaofan works for Oracle, Hedvig and Alibaba cloud. Xiaofan has built several distributed storage and database systems in public cloud.

Xiaofan is currently working at Zilliz as the head of engineering, in charge of R&D of Milvus open source project and the Zilliz cloud platform.
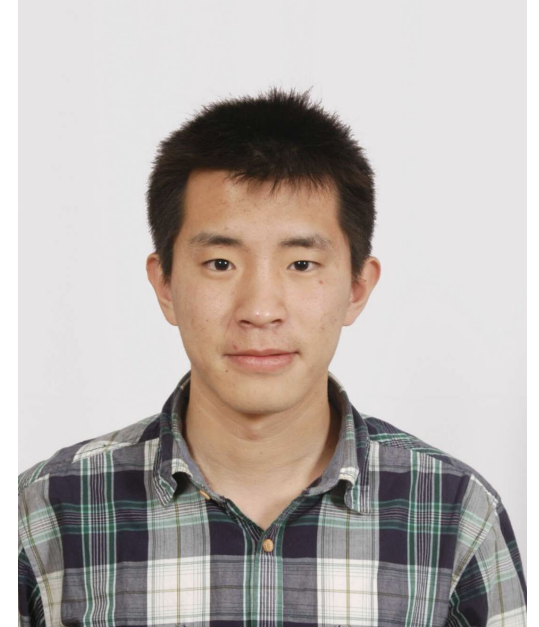
Collaboration with LF AI & Data projects and members

- Adopted ONNX (graduated project) to manage deep learning models in the Milvus bootcamp applications
- Working with GSI Technology (general member) to support GSI APU processor in Milvus
- Working with Baidu (premier member) in multiple Paddlepaddle and EDL cases
- Initial discussion with Vulkan Kompute (sandbox project) about the integration

2021 Roadmap - Completed

- Adopted most popular ANNS algorithm libraries
- Supported near real time data injection
- Implemented the 1st sharding proxy
- Provided SDK for the most popular programming language
- Milvus 1.0 - The first long-term support release

2021 Roadmap

- 6.30.2021 Milvus 2.0 - Deliver Distributed Vector database
  - Fully managed Failure Recovery and service discovery
  - Support Vector search with scalar filtering/ point query
  - Support new orm-style apis
  - Tunable consistency
  - Grafana | Prometheus support
- 10.31.2021 Milvus 2.1 - Deliver complete set of DML functions
  - Support deletes/updates
  - Support string/varbinary type
  - Segment Compaction implementation
  - Memory/Load based Balancer
  - K8s deployment support
  - Apache Spark/Flink Connector

2022 Roadmap

- 2.28.2022 Milvus 2.2 - Cloud Native Vector database
    - Multi tenant support
    - QueryNode Group isolation
    - BulkLoad insert
    - Traffic Control/ back pressure
    - Distributed Tracing/Log Aggregation
    - Embedded milvus for data scientist
    - Kafka Support

Long-term Roadmap

- Federated Queries by Spark/Presto
- Time Traverse
- Traffic Control/ back pressure
- Hot/Cold Data separation
- Performance boosting
- Incremental Backup
- Cost based Query Optimization
- On Disk vector Indexing
- Change Data capture
- Data Importer/Transformer

Executive Summary

- The Milvus project meets all graduation criteria for LF AI & Data graduating projects
- We have been in incubation for 15 months and grew the project to become a strong player in the open source AI ecosystem
- The Milvus project has no requirements for any spending at this time
- We look forward to your positive vote to graduate the project

TAC Vote on Project Graduation Proposal: Milvus

Proposed Resolution:

The TAC approves the Milvus as an Graduation project of the LF AI & Data Foundation

Next Steps

The Governing Board will review the Milvus deck during their January call and we will have an agenda item for the board to vote on the graduation.

After a positive vote, LF AI & Data staff will work with Milvus team to announce the graduation and project promotion

Invited Presentation - KOSA.AIl

Layla Li <layla@kosa.ai>
Sonali Sanghrajka <sonali@kosa.ai>

LF AI & DATA

KOSA

The world's first automated responsible AI system

June 2021

Amsterdam, Netherlands/ Nairobi, Kenya

OUR TEAM

LAYLA LI

Co-founder & CEO

7+ years delivering crucial tech solutions at Tesla, Philips and other tech innovators

SONALI SANGHRAJKA

Co-founder & CCO

10+ of strategy and bd experience in market entry of products each worth ~$500M

Artificial intelligence to deliver $13 trillion economic activity by 2030, but 85% will generate false results due to bias in data or algorithm.

*McKinsey, Gartner

This problem costs hidden millions today

30% Missed Revenue
from affected customers in the year following a data misuse incident.*

Increased Risks
Risks of costly litigations in non-compliant AI systems

$$$$

3x Customer Trust
put on ethics over competency when assessing companies' trustworthiness

1 in 6 Digital Talent Loss
because they won't help build potentially harmful products

2021 has been a big year in AI Governance

Uber hit with default 'robo-firing' ruling after another EU labor rights GDPR challenge

EU regulation sets fines of €20M or up to 4% of turnover for AI misuse

The New York Times

Who Is Making Sure the A.I. Machines Aren't Racist?

When Google forced out two well-known artificial intelligence experts, a long-simmering research controversy burst into the open.

MIT Technology Review

This has just become a big week for AI regulation

The EU has unveiled its new AI rules—but an announcement from the FTC may have more teeth.

Obstacles for each stakeholder

Leadership

- **Current tool kit**: Consulting services ($$$$)
- **Problems faced**: Executives don't truly understand AI practices within their organizations

Dev Team

- **Current tool kit**: Open-source libraries such as AIF360 or FairLearn (Lack of guidance and resources to get started)
- **Problem faced**: 36% data science teams cites management resistance as main barrier towards delivering business value*

KOSA: Optimizely for fairness-conscious AI/ML teams

A system that drives organizational change

KOSA answers 4 critical questions:

- What are the biases throughout my AI/ML process?
- How do we mitigate them?
- What can I gain from it?
- Why does my model make decisions the way it does?

Executive Teams

KOSA's ROI calculator helps quantify financial impact of AI bias.

Operations Teams

KOSA helps de-risk products from compliance and regulatory needs.

AI/ML Teams

KOSA provides evaluation & mitigation solutions integrated with the system of choice.

KOSA IN ML WORKFLOW

| Training & Deployment | Prep Data | → | Build Model | → | Train Model | → | Evaluate | → | Deploy Model | → | Feedback |

| Monitoring & Mitigation | Evaluate & mitigate data bias | Evaluate & mitigate model bias | Explain model behavior and impact & Compliance Check | Monitor model drift |

KOSA Explainable Auditing & Mitigation
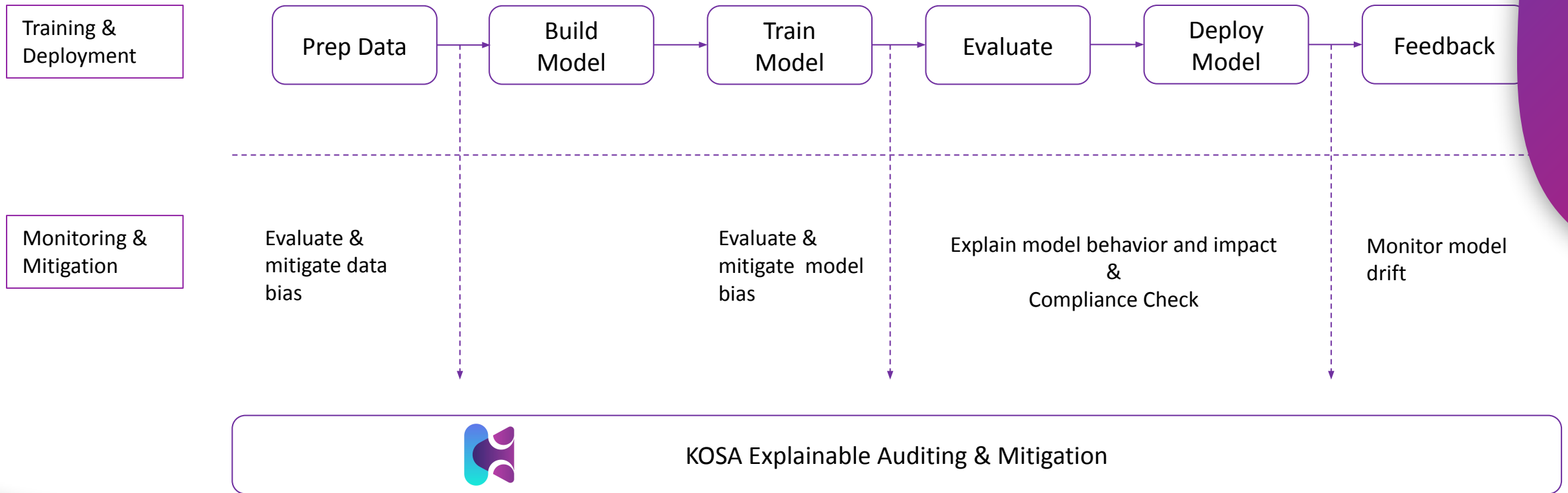
(Zero code integration and fully automated)

KOSA's Open-Source Commitment

Research Partners

The International Digital Health & AI Research Collaborative
Partnership on fair AI definition research

Know Center: Research Center for Data-Driven Business & Big Data Analytics
Partnership on ethical AI research

Africa Health Business
Partner on African digital healthcare collaboration

University of Massachusetts Amherst
Research collaboration on AI bias mitigation

KOSA IN AFRICA

60% of Africa popn. <25

Africa's digital economy contributing $180M to the broader economy by 2025

English is widely spoken

More diverse training data sets - - - → **Supply the world with representative datasets from Africa**

Mobilise African talent - - - → **Make technology more inclusive, from a different perspective**

Strategic partnerships - - - → **Partner and support from major NGOs and institutions**

Current Focus and Development

Pricing Model

-**Free:** Our open-source research, limited usage and functionalities of our software available

-**Pro:** $6250/m based on typical data usage & # of models

-**Enterprises:** Custom solutions

Segment Focus

-Healthcare
-Financial Services
-Government

(1000+ employees and tech mature companies in EU, mostly in regulated industries)

Expansion

- **Tech roadmap:** from supervised learning to Computer vision to NLP

- **Industry expansion:** HR, automotives

Healthcare delivery

Credit/Risk assessment

Insurance

Hiring

THANK YOU!

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                 M: +31 0620314550

Sonali Sanghrajka: | E: sonali@kosa.ai
              M: +254 722 518 410

Request a demo at: KOSA.ai

LF AI & Data - TAC Election

Jacqueline Cardoso (LF)

LF AI & DATA

Upcoming TAC Chairperson Election

As announced during today's TAC meeting, there will be an opening for the **LF AI & Data Foundation TAC Chairperson**; the role will be effective through 2021. Eligible voting members are listed on the TAC wiki **here**. **Please review the following election timeline:**

› *Nomination period start:* May 27th, nominations should include a short bio + statement of intent

› *Nomination period end:* June 3rd, 5pm ET

› *Voting period start:* June 7th, LF to send slate of respective nominees and voting instructions to TAC Voting Members

› *Voting period end:* June 14th, 5pm ET

› *Election winner announced:* June 15th

Please begin to think about your participation and if you are interested in nominating yourself or another TAC voting member. **Information about the role:**

› General TAC and Chairperson details can be viewed within the LF AI & Data 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 & Data staff to discuss overall TAC activities and planning

› General representation of the TAC and the LF AI & Data technical community

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LF AI & Data - Badging for Projects

Andre de Waal (OpenDS4All)
Mandy Chessell (Egeria)

LF AI & DATA

Goal: Reward contributions!

- **OpenDS4All - Technical Steering Committee badge**
- Be an active member of the TSC for at least 1 year

- **OpenDS4All - Contributor badge**
- Contributing expertise as an instructor to a workshop, bootcamp
- Contributing expertise as an advocant (such as speaker at conferences, workshops, panels)
- Create a module (Powerpoint slide deck)
- Create a module (Jupyter Notebook)
- Create a use case (Markdown file and Jupyter Notebook)
- Translate a module to another language (Spanish, French, German etc.)
- Translate a Jupyter Notebook from Python to R
- Record a module or part of a module
- Substantial edits and/or contributions to existing content

NB! The OpenDS4All Technical Steering Committee will evaluate the recipient's contribution and approve/disapprove whether a badge will be issued or not

LF AI & Data - Annual Project Reviews

Jim Spohrer (TAC), John Mertic (LF)

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Annual Review schedule

Created by John Mertic, last modified by Jim Spohrer just a moment ago

Presentation Template https://docs.google.com/presentation/d/1CcEf7DyXoobLMtt7Tdbu7f9L6xSUw6seBBoKbGvoqy0/edit?usp=sharing

Date	Project	Presenter
April 6, 2021	Egeria	Mandy Chessell - recording / deck
April 6, 2021	OpenDS4all	Abdre de Waal - recording / deck
May 20, 2021	ONNX	Jim Spohrer - recording / deck
July 15, 2021	EDL	Ti Zhou (confirmed)
July 29, 2021	Angel	
July 29, 2021	Adlik	
Aug 26, 2021	Acumos	Amit Kumar (confirmed)
Aug 26, 2021	Sparklyr	
Sept 9, 2021	Marquez	
Sept 9, 2021	Milvus	
Sept 23, 2021	NNStreamer	
Sept 23, 2021	ForestFlow	
Oct 7, 2021	Ludwig	
Oct 7, 2021	Amundsen	

Oct 21, 2021	AI Fairness 360
Oct 21, 2021	AI Explainability 360
Oct 21, 2021	Adversarial Robustness Toolbox
Nov 4, 2021	Horovod
Nov 4, 2021	FEAST
Nov 18, 2021	SOAJS
Nov 18, 2021	Delta
Dec 2, 2021	DataPractices.org
Dec 2, 2021	JanusGraph
Dec 16, 2021	Pyro
Jan 6, 2021	Datashim
Jan 6, 2022	Flyte
Jan 20, 2022	RosaeNLG
Jan 20, 2022	SubstraFramework
	MLX
	VulcanKompute

Schedule: https://wiki.lfaidata.foundation/display/DL/Annual+Review+schedule

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Upcoming TAC Meetings

Upcoming TAC Meetings (Tentative)

› June 17: GSI invited presentation, Saishruthi Swaminathan (MLOps Committee proposal)

› July 1: Canceled Holiday

› July 15: TonY (LinkedIn), EDL Annual Update

› July 29: Angel and Adlik Annual Update

› Aug 12: TBD - KServe and STREAMS (IBM) - tentative

› Aug 26: Acumos, SparklyR Annual Update

› Sept 9: TBD

› Setp 23: NNStreamer, ForestFlow Annual Update

› Oct 7: Ludwig, Amundsen Annual Update

›

Please send agenda topic requests to
tac-general@lists.lfaidata.foundation

LF AI & DATA

TAC Meeting Details

› To subscribe to the TAC Group Calendar, visit the wiki:
https://wiki.lfaidata.foundation/x/cQB2

› 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

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LF AI & Data - General Updates

LF AI & DATA

Linux Foundation AI & Data Landscape
2021-05-31T06:16:56Z b4698f9

See the interactive landscape at l.lfaidata.foundation

Greyed logos are not open source

Machine Learning

Framework	Platform	Library
Angel — Graduated	ForestFlow — Incubating	

Deep Learning

Framework	Platform	Library	Tool

Reinforcement Learning

Reinforcement Learning

Programming

Pyro — Graduated

Data

Education	Lineage	Relational DB	Store & Format	Versioning	Operations	Feature Engineering	Stream Processing	SQL Engine	Visualization	Pipeline Management	Labeling & Annotation	Governance

- Education: DATAPRACTICES.ORG — Incubating; OpenDS4All — Incubating
- Lineage: OpenLineage — Sandbox
- Store & Format: JanusGraph — Incubating; Milvus — Incubating
- Operations: Amundsen — Incubating; datashim — Incubating; MARQUEZ — Incubating
- Feature Engineering: FEAST — Incubating
- Stream Processing: NNStreamer — Incubating
- Governance: EGERIA — Graduated

Model

Inference	Benchmarking	Training	Parameter	Format & Interface	Marketplace	Workflow	Tool

- Inference: ADLIK — Incubating
- Training: HOROVOD — Graduated; LUDWIG — Incubating
- Format & Interface: ONNX — Graduated
- Marketplace: Acumos — Graduated; Machine Learning eXchange — Sandbox
- Workflow: Flyte — Incubating

Trusted & Responsible AI

Explainability	Adversarial	Bias & Fairness
AI Explainability 360 — Incubating	Adversarial Robustness ToolBox — Incubating	AI Fairness 360 — Incubating

Distributed Computing

Computing & Management	Interface
EDL (Elastic Deep Learning) — Incubating; SOAJS — Incubating	sparklyr — Incubating

The LF AI & Data landscape explores open source projects in Artificial Intelligence and Data and their respective sub-domains.

l.lfaidata.foundation

LF AI & DATA Landscape
LF AI & DATA

Security & Privacy

Security & Privacy

Natural Language Processing

DELTA — Incubating	RosaeNLG — Sandbox

Notebook Environment

Notebook Environment

2020 TAC Meetings Summary

Months			
Jan Feb Mar	16: Milvus (Zilliz)*	*13: MLOps Work (LF CD)* *27: Collective Knowledge (Coral Reef)*	12: NNStreamer (Samsung)* 26: ForestFlow (?)*
Apr May Jun	*9: Trusted AI & ML Workflow (LF)* *23: Open Data Hub (Red Hat)*	7: Ludwig (Uber)* *21: SnapML (IBM)*	*4: Trusted AI (AI for Good, Ambianic.ai, MAIEI)* 18: Fairness, Explainability, Robustness (IBM)*
Jul Aug Sep	*16: Mindspore (Huawei)* 30: Amundsen (Lyft)*	*16: Delta (Didi)* **16: Horovod (Uber/LF)**** *30: ModelDB (?)* *30: Egeria, OpenDS4All, BI&AI (LF ODPi)*	10: SOAJS (HeronTech)* 10: Delta (Didi)* 24: FEAST (Gojek)* **24: Egeria, (LF ODPi)**** 24: OpenDS4All (ODPi)* 24: BI&AI Committee (ODPi)
Oct Nov Dec	*8: Fairness, Explainability, Robustness (LF)* *22: OpenLineage (DataKins)* *22: IDA (IBM/Salesforce)*	5: DataPractices.Org (WorldData/LF)* 5: Kubeflow-On-Prem (Google,Arrikto/Intel) *19: OpenDS4All, DataPractices.Org, edX Ethical AI (LF)*	3: TBD - JanusGraph (LF)* *3: TBD - RosaeGL (?)* 17: TBD – Seldon Core (Seldon)* **17: TBD – Pyro (Uber/LF)****

(Entity)* = incubating vote   **** bold = graduate vote**   *Italics = invited project presentation*

2021 TAC Meetings Pipeline Summary

Months			

Jan Feb Mar	14: Datashim(IBM)*
	28: Project Lifecycle Stages vote
	    Invited talks Sedna & CIM
		11: Invited talks Egeria CI & Mentorships
		25: Flyte (Lyft) *
			11: RosaeNLG () Sandbox Proposal
			    Invited talk Elyra-AI (IBM)
			25: Substra Framework (Substra)*

Apr May Jun	8: Invited talk JINA AI 22: Egeria & OpenDS4All - project update	6: ML eXchange (MLX) (IBM) Sandbox Vulcan Kompute () Sandbox 20: OpenLineage (Datakin) Sandbox	3: KOSA.ai 17: GSI
Jul Aug Sep	1: Canceled for holiday 15: TonY (Linkedin)	5: TBD - Project updates 19: TBD - Project updates	?: Open Data Hub (Red Hat) ? Ray (Anyscale.io) ?: Pachyderm (Pachyderm) ?: DataHub (LinkedIn) ?: Kubeflow-On-Prem (Google, Arrikto, Intel)
Oct Nov Dec	?: Vespa (Verizon Media) ?: KubeflowServing (Google, Arrikto, Seldon) ?: Kubeflow Pipeline (Google, Bloomberg) ?: Common Knowledge (Code Reef) ?: Couler (Ant Financial)	?: Snorkle (Snorkle) ?: Plotly (DASH) ?: Mellody (Substra) ?: mloperator (Polyaxen) ?: SnapML (IBM)	?: PMML/PFA (DMG.org) ?: Mindspore, Volcano (Huawei) ?: TransmorgrifAI (Salesforce) ?: AIMET (Qualcomm) ?: Elyra-AI (IBM)

(Entity)* = incubating vote   **** bold = graduate vote**   *Italics = invited project presentation*

Getting to know the projects more

LF AI & DATA

Active and growing developer community
Cumm. Jan 1- Dec 31, 2020 vs. Jan 1, 2020 to Apr 2, 2021

8.92K Contributors	**34.65K** PRs/Changesets	**100.03K** Commits	**22.54K** Total issues	**358** Repositories	**2.08K** Slack messages
+7.25%	+7.21%	+11.03%	+5.19%	+3.07%	+68.75%
9.61K Contributors	**37.15K** PRs/Changesets	**111.07K** Commits	**23.71K** Total issues	**369** Repositories	**3.51K** Slack messages

LF AI & DATA

Projects

https://landscape.lfai.foundation/card-mode?project=company

* Missing Substra Framework (pending
logo redesign)

New projects in 2021

1. **Datashim:** Open source enablement and acceleration of data access for Kubernetes/Openshift workloads in a transparent and declarative way

2. **Flyte:** Production-grade, declarative, structured and highly scalable cloud-native workflow orchestration platform

3. **RosaeNLG:** Open source project, template-based Natural Language Generation (NLG) automating the production of relatively repetitive texts based on structured input data and textual templates, run by a NLG engine

4. **Substra Framework:** Low-layer framework, offering secure, traceable, distributed orchestration of machine learning tasks among partners.

5. **ML eXchange:** Data and AI Assets Catalog and Execution Engine

6. **Kompute: Blazing fast, mobile-enabled, asynchronous, and optimized for advanced GPU processing usecases.**

7. **Open Lineage:** Open standard for metadata and lineage collection designed to instrument jobs as they are running

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Data from November 23, 2020 – Stars and Contributors
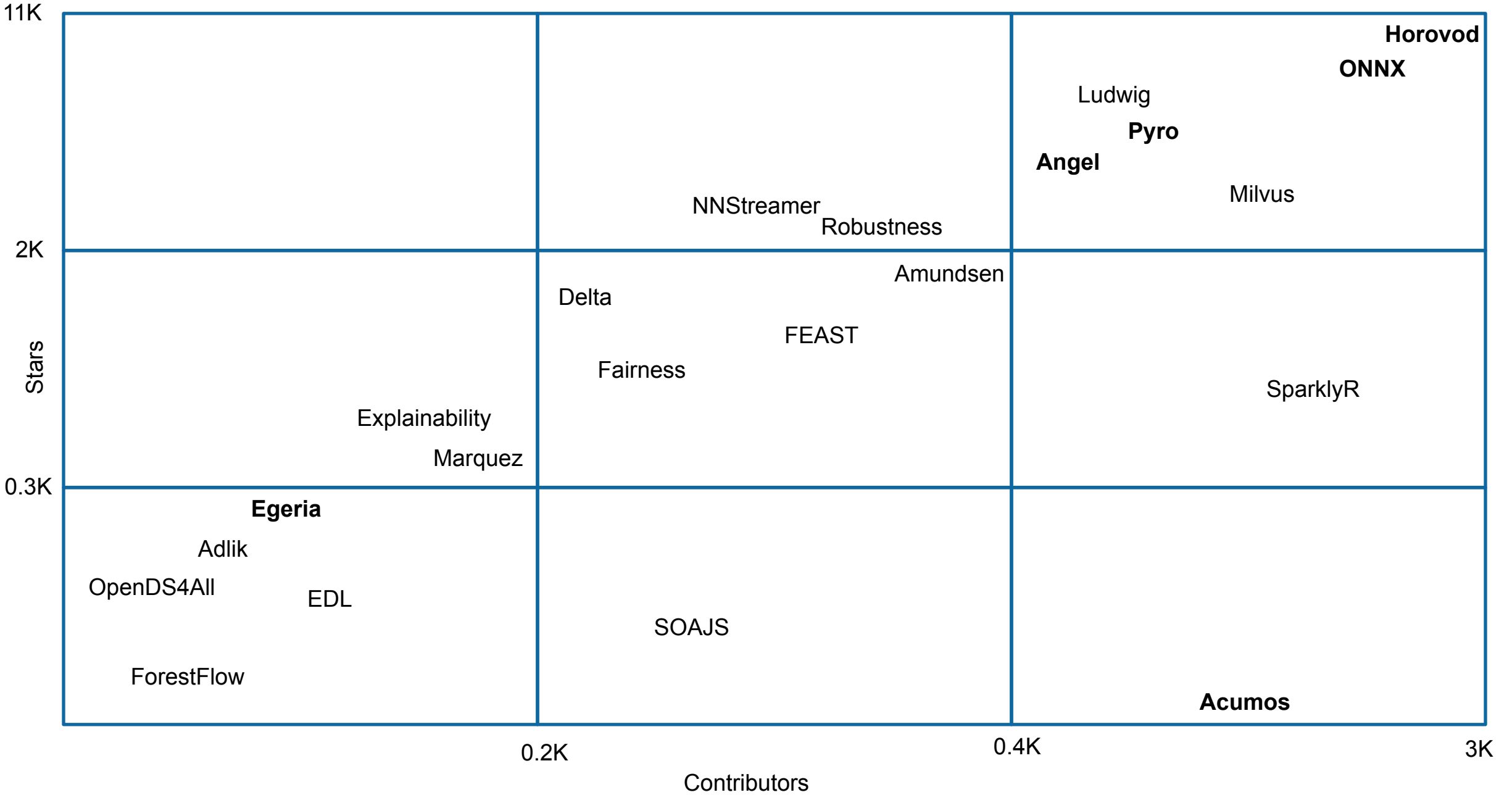
Data Coverage (Mar 19, 2021) - Stars and Contributors

GitHub Stars (y-axis): 0.3K, 2K, 11K

Contributors (x-axis): 0.2K, 0.4K, 4K

HOROVOD, ONNX, LUDWIG, Angel, Milvus, JanusGraph, Adversarial Robustness Toolbox, Amundsen, FEAST, DELTA a deep learning language technology platform, Flyte, AI Fairness 360, AI Explainability 360, sparklyr, MARQUEZ, EGERIA, NNStreamer, OpenDS4All, ADLIK, EDL Elastic Deep Learning, datashim, SOAJS, Acumos, ForestFlow, RosaeNLG.org

Data from November 23, 2020 – Lines of Code and Commits

1000K

SOAJS

Acumos

Egeria

Milvus

Angel

NNStreamer

ONNX

Amundsen

Pyro

100K

SparklyR

OpenDS4All

Marquez

Delta

FEAST

Horovod

Robustness

Ludwig

40K

Adlik

EDL

Fairness

ForestFlow

Explainability

Lines

1K   5K   20K
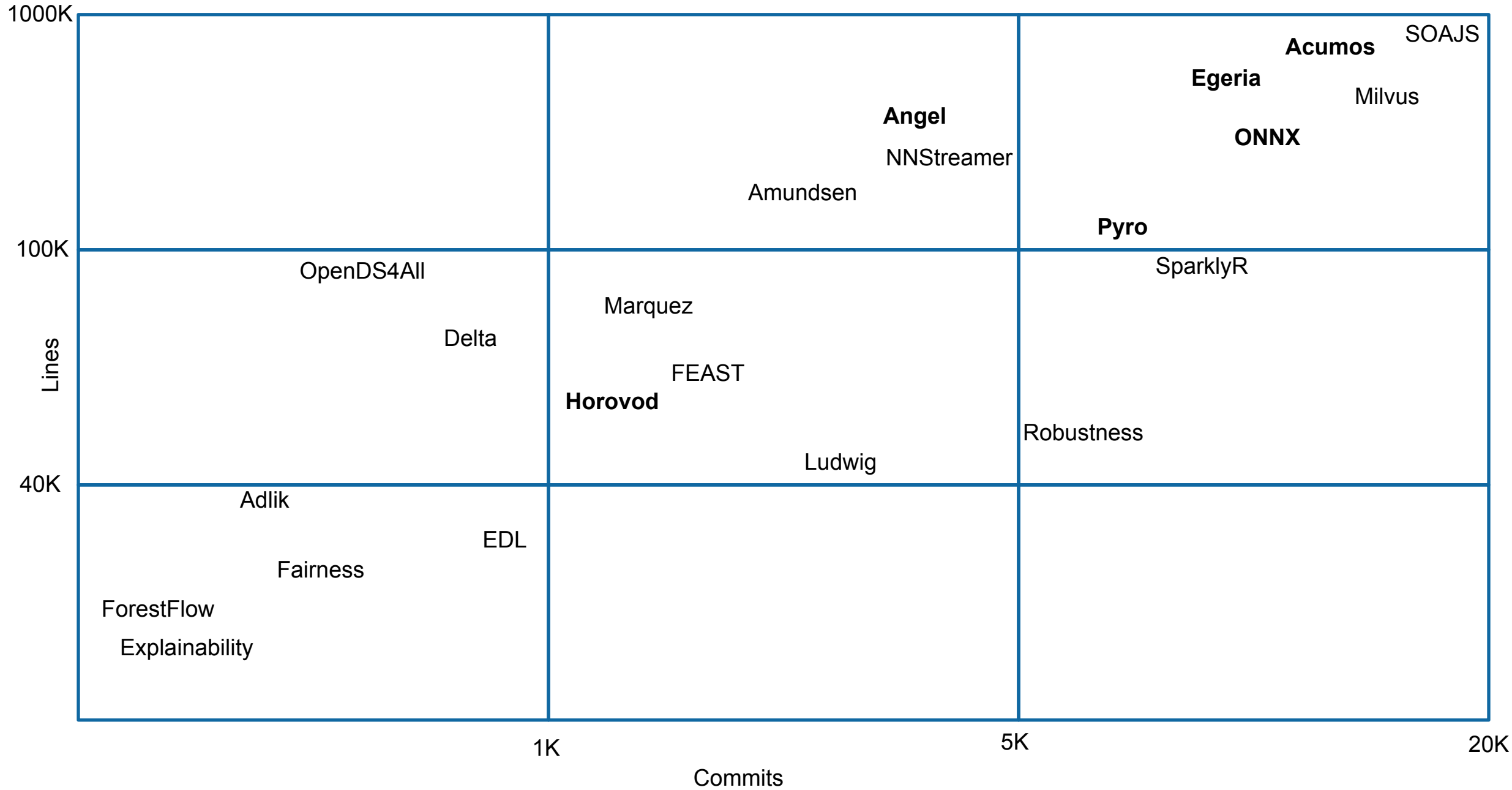
Commits

Data Coverage (Mar 19, 2021) - Line of Code and Commits

Lines (y-axis): 1000K, 100K, 40K

Commits (x-axis): 1K, 5K, 20K

SOA3

Amundsen

Flyte

Acumos

EGERIA

Milvus

ONNX

Angel

NNStreamer

OpenDS4All

MARQUEZ

sparklyr

DELTA
a deep learning language technology platform

HOROVOD

Adversarial Robustness Toolbox

LUDWIG

ADLIK

FEAST

AI Fairness 360

EDL
Elastic Deep Learning

ForestFlow

datashim

AI Explainability 360

JanusGraph

RosaeNLG.org

Looking to host a project with LF AI & Data

› Hosted project stages and life cycle:
https://lfaidata.foundation/project-stages-and-lifecycle/

› Offered services for hosted projects:
https://lfaidata.foundation/services-for-projects/

› Contact:
Jim Spohrer (TAC Chair) and Ibrahim Haddad (ED, LF AI & Data)

LF AI & DATA

Promoting Upcoming Project Releases

We promote project releases via a blog post and on LF AI & Data [Twitter](#) and/or [LinkedIn](#) social channels

For links to details on upcoming releases for LF AI & Data hosted projects visit the [Technical Project Releases wiki](#)

If you are an LF AI & Data hosted project and would like LF AI & Data to promote your release, reach out to pr@lfai.foundation to coordinate in advance (min 2 wks) of your expected release date.

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Note on quorum

As LF AI & Data is growing, we now have 18 voting members on the TAC.

TAC representative - please ensure you attend the bi-weekly calls or email Jacqueline/Ibrahim to designate an alternate representative when you can not make it.

We need to ensure quorum on the calls especially when we have items to vote on.

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Updates from Outreach Committee

LF AI & DATA

Recent Announcements

1. Flyte 0.13.0 Release Now Available, May 10
2. Data Intelligence – AI-based Automation, May 12
3. Trusted AI Principles – RREPEATS Practical Examples Review, May 13
4. Milvus 1.1 Release Now Available, May 17
5. What You Cannot Miss in Any AI Implementation: Fairness, May 19
6. LF AI & Data Day EU Virtual – June 10, 2021

Upcoming Announcements

1. LF AI & Data Day EU, 10 June
2. LF AI & Data Mini Summit at Open Source Summit – Sept 27 – 30, 2021 (Seattle, Washington)
3. LF AI & Data Booth at Open Source Summit – Sept 27 – 30, 2021 (Seattle, Washington)
4. The Trusted AI Principles - Tools and Techniques, 15 sept. 2021
5. LF AI & Data Booth at OSS, Tokyo, Winter 2021
6. LF AI & Data New Member Welcome 2021 Q2

THE **LINUX** FOUNDATION

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Upcoming Events

› Upcoming Events
  › Visit the LF AI & Data Events Calendar or the LF AI & Data 2021 Events wiki for a list of all events
  › To participate visit the LF AI & Data 2021 Events wiki page or email info@lfaidata.foundation

› Please consider holding virtual events

To discuss participation, please email events@lfaidata.foundation

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Upcoming Events

- **OSS Global (hybrid) - Seattle, WA, USA - Sept 27-30 - Event Website**
  a. **Mini-Summit, Booth, Track**

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LF AI PR/Comms

› Please follow LF AI & Data on [Twitter](#) & [LinkedIn](#) and help amplify news via your social networks - Please retweet and share!
   › Also watch for news updates via the tac-general mail list
   › View recent announcement on the [LF AI & Data Blog](#)

› Open call to publish project/committee updates or other relevant content on the [LF AI & Data Blog](#)

› To discuss more details on participation or upcoming announcements, please email pr@lfaidata.foundation

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Call to Participate in Ongoing Efforts

LF AI & DATA

Trusted AI

- › **Leadership:**
  Animesh Singh (IBM), Souad Ouali (Orange), and Jeff Cao (Tencent)
- › **Goal:** Create policies, guidelines, tooling and use cases by industry

- › **Slack conversation channel:**
  #trusted-ai-committee
  https://lfaifoundation.slack.com/archives/CPS6Q1E8G
- › **Github:**
  https://github.com/lfai/trusted-ai
- › **Wiki:**
  https://wiki.lfai.foundation/display/DL/Trusted+AI+Committee
- › **Email lists:**
  https://lists.lfaidata.foundation/g/trustedai-committee/
- › **Next call:** Monthly alternating times
  https://wiki.lfai.foundation/pages/viewpage.action?pageId=12091895

ML Workflow & Interop

- › **Leadership:**
  Huang "Howard" Zhipeng (Huawei)
- › **Goal:**
  Define an ML Workflow and promote cross project integration

- › **Slack conversation channel:**
  #ml-workflow
  https://lfaifoundation.slack.com/archives/C011V9VSMQR
- › **Wiki:**
  https://wiki.lfaidata.foundation/pages/viewpage.action?pageId=10518537
- › **Email lists:**
  https://lists.lfaidata.foundation/g/mlworkflow-committee
- › **Next call:** Monthly check calendar/slack
  https://wiki.lfai.foundation/pages/viewpage.action?pageId=18481242

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BI & AI

› **Leadership:**
Cupid Chan (Index Analytics)
› **Goal:** Identify and share industry best practices that combine the speed of machine learning with human insights to create a new business intelligence and better strategic direction for your organization.

› **Slack conversations channel:**
#bi-ai-committee
https://lfaifoundation.slack.com/archives/C01EK5ND073
› **Github:**
https://github.com/odpi/bi-ai
Wiki:
https://wiki.lfaidata.foundation/pages/viewpage.action?pageId=35160417
Email lists:
https://lists.lfaidata.foundation/g/biai-discussion
Next call: Monthly community call TBD

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Ongoing effort to create AI Ethics Training

Initial developed course by the LF: Ethics in AI and Big Data - published on edX platform:
https://www.edx.org/course/ethics-in-ai-and-big-data

The goal is to build 2 more modules and package all 3 as a professional certificate - a requirement for edX

› **To participate:**
https://lists.lfaidata.foundation/g/aiethics-training

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Open Discussion

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Mission

To build and support an open community and a growing ecosystem of open source AI, data and analytics projects, by accelerating innovation, enabling collaboration and the creation of new opportunities for all the members of the community

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