Meeting of the Technical Advisory Council (TAC)

November 5, 2020

⊓LF AI & DATA

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› Examples of types of actions that are prohibited at Linux Foundation meetings and in connection with Linux Foundation activities are described in the Linux Foundation Antitrust Policy available at http://www.linuxfoundation.org/antitrust-policy. If you have questions about these matters, please contact your company counsel, or if you are a member of the Linux Foundation, feel free to contact Andrew Updegrove of the firm of Gesmer Undergone LLP, which provides legal counsel to the Linux Foundation.

LF AI & DATA

Recording of Calls

› **Reminder:**

›

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

LF AI & DATA

Reminder: LF AI & Data 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

LF AI & DATA

Agenda

- › Welcome ODPi Member and Projects to merged LF AI & Data!!! (3 minutes)
- › Revised Mission Statement (2 minutes)
- › Roll Call (2 mins)
- › Approval of Minutes (2 mins)
- › Project Contribution Proposal + Q&A + TAC Vote (30 minutes)
  - › DataPractices.Org
- › Invited Presentation (15 minutes)
  - › KubeFlow-on-Premises
- › LF AI General Updates (3 minutes) - good press coverage of LF AI & Data announcement
- › Open Discussion (3 minutes)

LF AI & DATA

Welcoming New Members

Premier
- SAS Institute

General
- Index Analytics
- ING Bank
- Cloudera
- Precisely
- AlphaBravo
- Broadcom
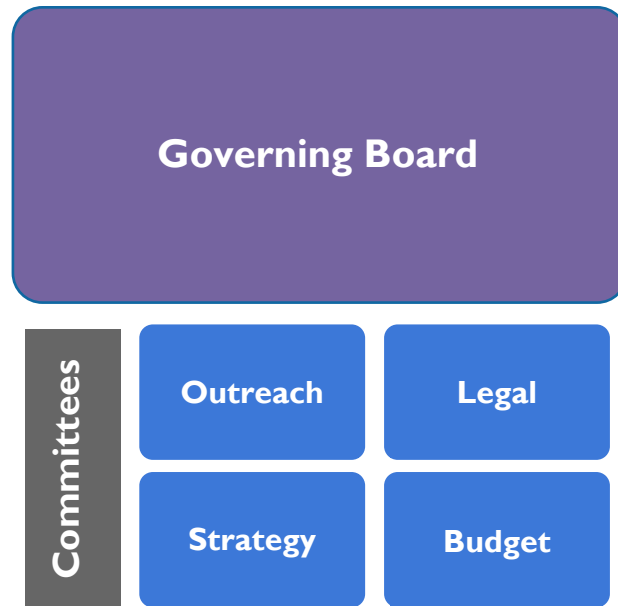- Databricks

Associate
- Aivancity School for Technology, Business & Society
- OpenI (OpenIntelligence)
- The Shanghai Open Source Information Technology Association
- Peng Cheng Laboratory

Structure and Governance

Foundation Governance
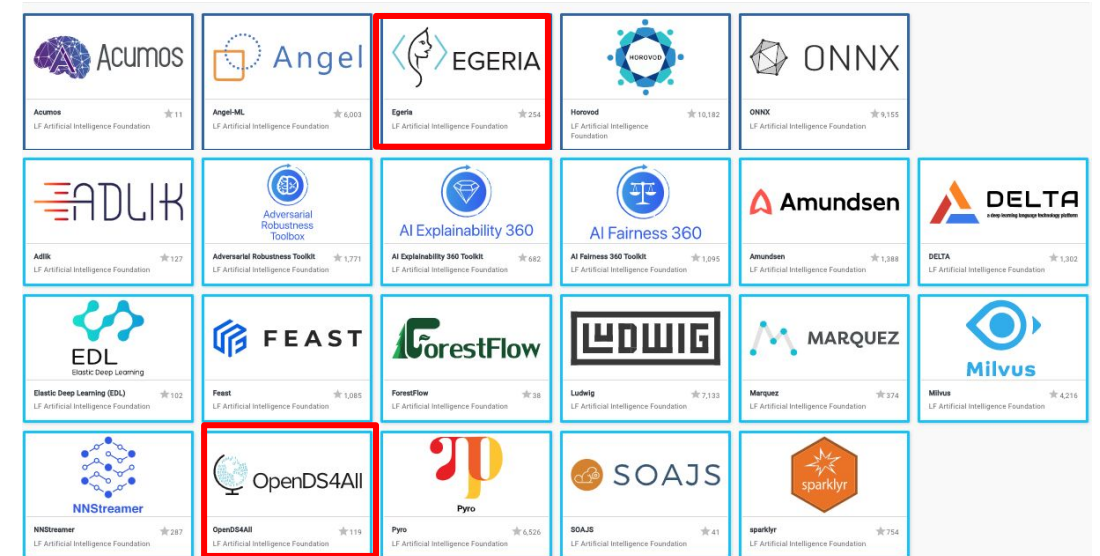Funding effort to support hosted technical projects

Technical Coordination, New Initiatives

Hosted Projects

Projects have their own independent technical governance

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

LF AI & DATA

TAC Voting Members

Board Member	Contact Person	Email
AT&T	Anwar Atfab	anwar@research.att.com
Baidu	Ti Zhou	zhouti@baidu.com
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Graduate Project	**Contact Person**	**Email**
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Egeria	Mandy Chessell	mandy_chessell@uk.ibm.com
Horovod	Travis Addair	taddair@uber.com
ONNX	Jim Spohrer (Chair of TAC)	spohrer@us.ibm.com

Approval of October 22, 2020 Minutes

Draft minutes from the October 22th TAC call were previously distributed to the TAC members via the mailing list

Proposed Resolution:

› That the minutes of the October 22th meeting of the Technical Advisory Council of the LF AI & Data Foundation are hereby approved.

Project Contribution Proposal - DataPractices.Org

LF AI & DATA

Project Contribution Proposal Review & Discussion: DataPractices.org

DataPractices.org was created to help raise the level of data literacy and modern, ethical, data practice throughout the ecosystem. Our ethical framework, and open courseware, will help to further the mission of the LF AI & Data foundation. In terms of collaboration with other projects, OpenDS4All would be a great place to build on courseware and leverage expert connections to create more.

Presenter: Patrick McGarry

Resources:
    Github: https://github.com/datadotworld/data-practices-site
    Project Level: Incubation
    Proposal: https://github.com/lfai/proposing-projects/pull/30/commits/9390d85e74eebe73fd3d8479e8f948750e0ec8d9

LF AI & DATA

Historical Context

https://datapractices.or
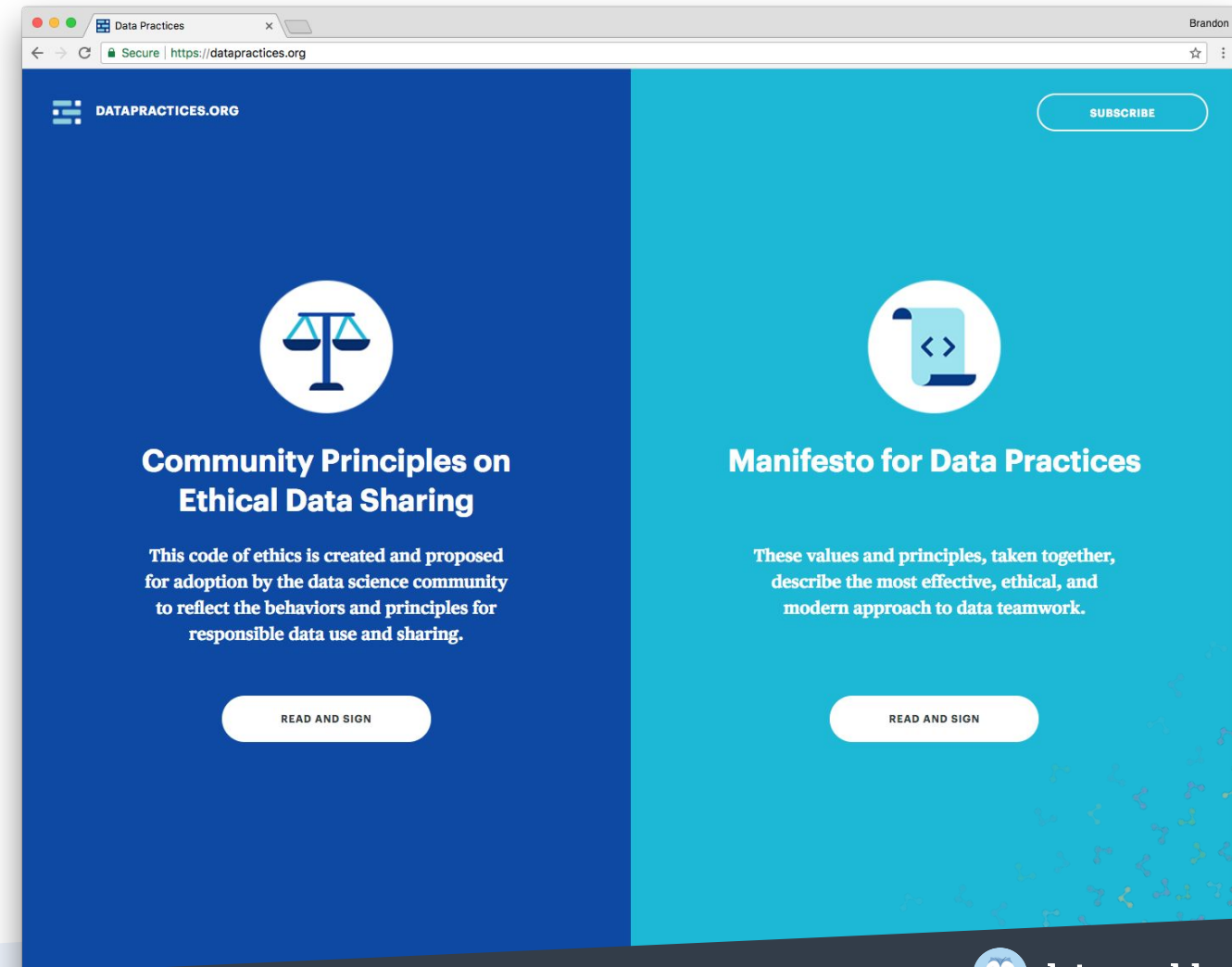g

Manifesto for Data Practices

1. First release successful
2. Community-driven
3. Still gathering
   signatures
4. **Origination:** ODSLS
5. **Focus:** Data work

Global Data Ethics Pledge

1. Was: Community Principles on Ethical Data Sharing
2. Work in progress
3. Community-driven (via D4D)
4. Community draft released
5. **Origination**: Bloomberg, D4D, Brighthive
6. **Focus**: Data Ethics

DATAPRACTICES.ORG

SUBSCRIBE

Community Principles on Ethical Data Sharing

This code of ethics is created and proposed for adoption by the data science community to reflect the behaviors and principles for responsible data use and sharing.

READ AND SIGN

Manifesto for Data Practices

These values and principles, taken together, describe the most effective, ethical, and modern approach to data teamwork.

READ AND SIGN

data.world

Secure | https://datapractices.org/manifesto/

BACK

SUBSCRIBE

Manifesto for Data Practices

VALUES

PRINCIPLES

AUTHORS

SIGNATORIES

SIGN

We believe these values and principles, taken together, describe the most effective, ethical, and modern approach to data teamwork.

—

VALUES

Inclusion

Maximize diversity, connectivity, and accessibility among data sources, collaborators, and outputs.

Experimentation

Emphasize continuously iterative testing and data analysis.

Accountability

Behave ethically and transparently, fix mistakes quickly, and hold ourselves and others accountable.

Impact

Prioritize projects with well-defined goals, and design them to achieve measurable, substantive outcomes.

4 core values

12 principles

39 authors

2,200+ signatories

datapractices.org/

data.world

Supported by leaders of the data community

39 authors, including:

- **Eric Colson**, Chief Algorithms Officer, StitchFix

- **Amy Gershkoff**, former Chief Data Scientist, Ancestry.com

- **Fernando Perez**, creator of iPython, Assistant Professor, Statistics, UC Berkeley

- **Andrew Therriault**, Chief Data Officer, City of Boston

- **Therese Couture**, Human Trafficking Data Analyst, Polaris

- **Wes McKinney**, BDFL, Pandas

2,200+ signatories, including:

- **DJ Patil**, former Chief Data Scientist of the United States

- **Monica Rogati**, former VP of Data Science, Jawbone

- **Kirk Borne**, Principal Data Scientist, Booz Allen Hamilton

- **Tricia Wang**, Fellow, Harvard Berkman Center

- **Jonathan Albright**, Research Director, Tow Center for Digital Journalism

- **Gregory Piatetsky**, founder, KDnuggets.com

data.world

Recent Evolution

Content

- **Two collections of content**
    - Project Lifecycle
    - Culture / Practice

- **Community Reviewed / Maintained**

Collaborators

- **Community**
  - **Carpentries**
  - **The Linux Foundation**
  - **Zuar**
  - **Brian Granger / Fernando Perez**
  - **Data Society**
  - **UCLA**
  - **Oracle**

- **Commercial**
  - **Praxis Analytics**
  - **The Data Incubator**
  - **Data Literacy**

Why Transfer Ownership?

- **All assets passed to <u>The Linux Foundation</u>**
    - 501(c)6
    - Tech focused
    - Houses the Linux kernel (& many others)

- **Press and promotion**

- **Trade federation network for participation**

- **data.world to lead a diverse community/board**

data.world

Why AI & Data?

- Close affiliation with LF Data efforts in a supporting role.

- Upstream project collaboration:
  - Use datapractices.org content as a base
  - Ex. OpenDS4All - build on courseware and leverage expert connections to create more.

- Downstream project collaboration:
  - datapractices.org as a platform to host and distribute valuable cross-project content.
  - Ex. Course on bias from AI Fairness
  - Ex. High level thought leadership from all

THE LINUX FOUNDATION

data.world

Courseware

data.world

Project Lifecycle

- **Kicking off a data project**
- **Sourcing Data**
- **Profile and Prepare**
- **Data Exploration**
- **Analyze and Report**
- **Data Project Post-Mortem**

data.world

Culture / Practice

- How to Build a Data-Driven Culture
- A Survey of Data Visualization
- Moving from Computer Science to Data Science
- Data Science for People Who Don't Code
- Data Visualization Best Practices
- Data Ethics 101

data.world

What's Next?

data.world

Infrastructure & Governance

- **Infrastructure**
    - Automation
    - Hosting

- **Governance**
    - **Expand technical leadership**
    - **Incorporate into broader effort**
    - **Finding a leader**

Content Development

- Courseware
    - Develop existing volunteers
    - Expand content collaboration
    - Deploy and use content

- Principles
    - Continue to build on momentum of signatories
    - Use as basis of CoC and Ethics development

Questions?

data.world
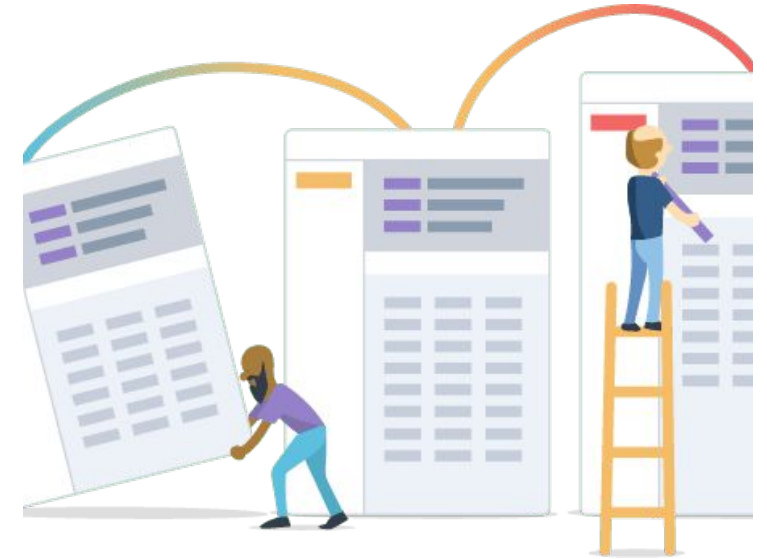
TAC Vote on Project Proposal: DataPractices.org

Proposed Resolution:

The TAC approves the DataPractices.org Project as an Incubation project of the LF AI & Data Foundation

Next Steps

LF AI & Data staff will work with DataPractices.Org to onboard the project leading to the announcement of the project joining LF AI & Data

Explore potential integrations between the project and other LF AI & Data projects

Integrate the project with LF AI & Data operations

Invited Presentation - Kubeflow-On-Premise

Co-chairs -

- Mike Tanenbaum - michael.a.tanenbaum@gmail.com

- Rui Vasconcelos - rui.vasconcelos.mail@gmail.com

Tech Leads -

- Marlow Weston - catblade@gmail.com

- Igor Mameshin - igor@agilestacks.com

LF AI & DATA

Kubeflow On-Prem SIG

Presentation to LFAI TAC - November 5th, 2020

Introducing: Kubeflow On-Prem SIG

We are a group of Kubeflow distribution vendors, consultants, and end-users seeking to establish a consistent, referenceable, repeatable, and well-tested experience for current and future on-prem Kubeflow users.

Why run KF on premises?

Cost

01

Leveraging public cloud resources for long-running data transformation/ETL jobs, distributed ML/DL training operations (especially with GPU), is _extremely expensive_, especially when network transfer fees are included.

End-user Implications:
Running ML/DL workloads in the **public cloud costs 2-3X more*** than running on-prem (at scale).
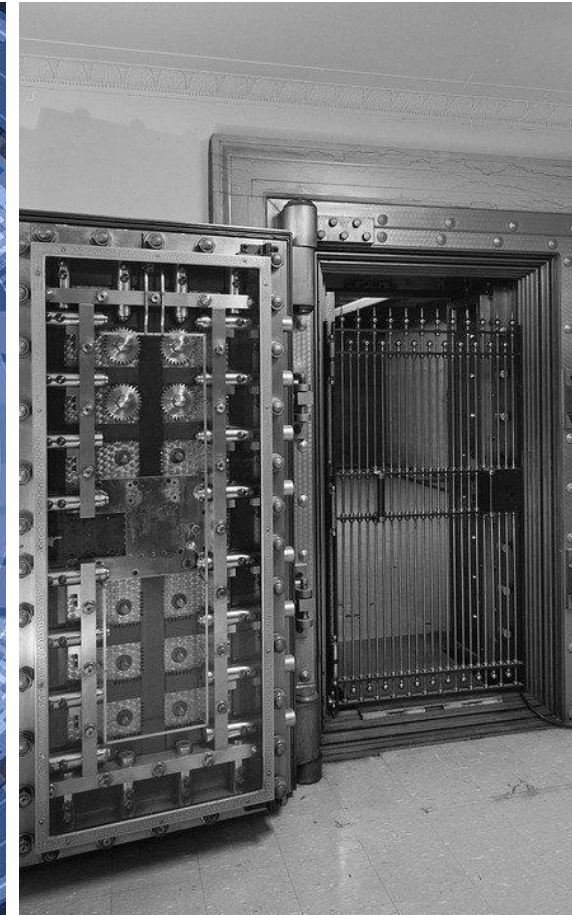
*Forbes - Feb 2019

Security

02

Many organizations are contractually prohibited from moving their data out of their data centers, and/or wish to maintain tight control over their data (via airgapping and other means)

End-user Implications:
Users require an end-to-end OSS ML solution that anticipates the needs of an on-prem (and disconnected) environment.

Compliance

03

New data residency requirements (e.x., GDPR) outpace the availability of managed cloud services or SaaS offerings in specific geo's. However, colo's and IaaS vendors are available in every location.

End-user Implications:
While the availability and quality of AI/ML PaaS offerings varies widely by geo, a tested and validated reference architecture using OSS components can be leveraged with any conformant hardware configuration (colo or IaaS).
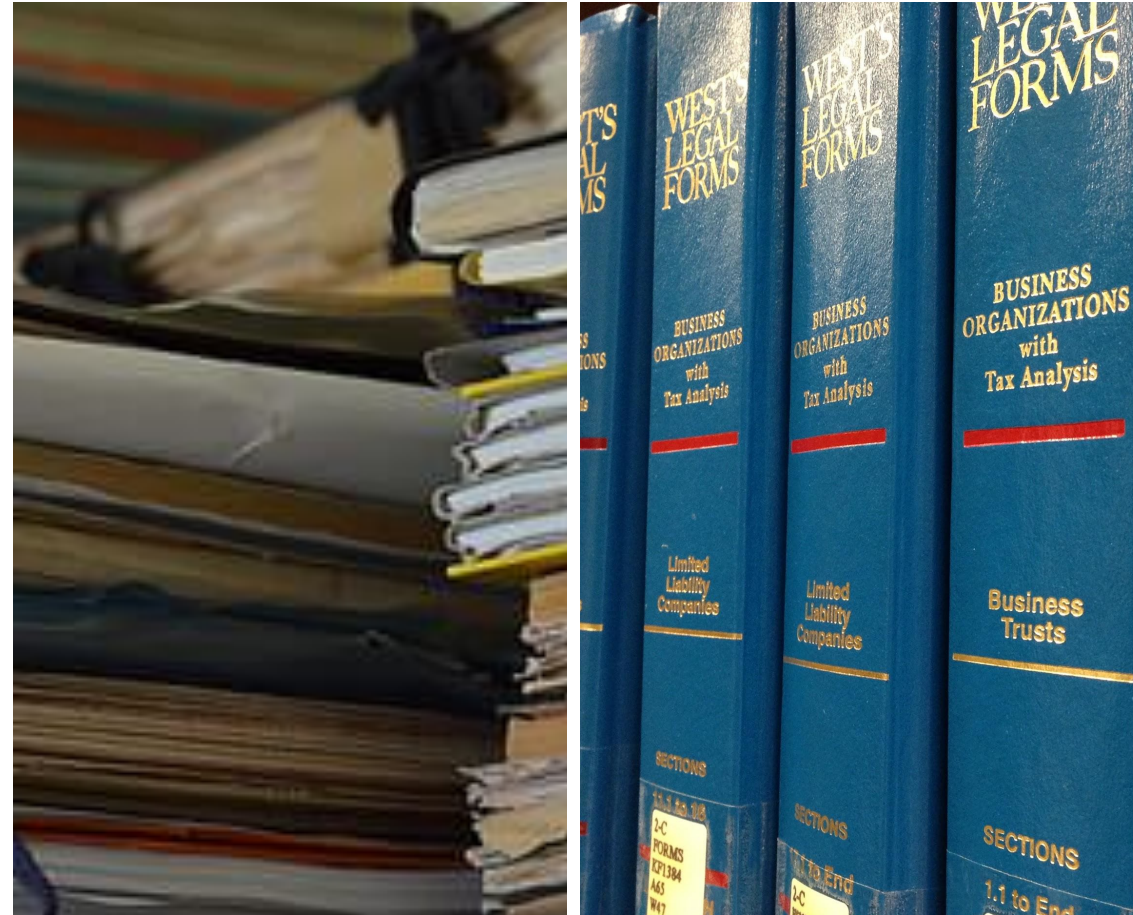
Community Roadmap

1 Establish reference architecture, covering: hardware architecture, OS, Kubernetes distribution/installation mechanism, KF components/versions - **v1 COMPLETE**

2 Conduct manual testing of the above reference architecture and toolchain and publish conformance/compliance/capability report back to community - **NOV. 2020**

3 Build CI/CD pipelines to automate the testing infrastructure per the supported toolchain above. - **Q1/Q2 2021**

4 Expand CI/CD to include OSS installer mechanisms and/or provide conformance results for combinations of KF components (if KF project splinters and no longer releases e2e KF versions). - **TBD**

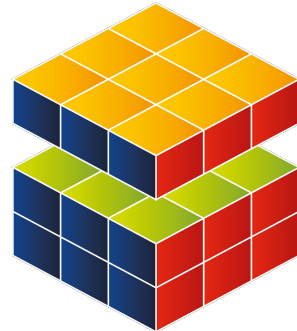# Opportunities to partner with LFAI

1   Assist in knowledge sharing and publicity of KF On-Prem project with other members of the LFAI / LF / CNCF community.

2   Assist in determining what LFAI community would like to see in terms of scale testing / mixed-workload testing for KF.

Who We Represent

Thank you.

#sig-onprem on Kubeflow community Slack

Co-chairs -
- Mike Tanenbaum - michael.a.tanenbaum@gmail.com
- Rui Vasconcelos - rui.vasconcelos.mail@gmail.com

Tech Leads -
- Marlow Weston - catblade@gmail.com
- Igor Mameshin - igor@agilestacks.com

LF AI & Data - General Updates

LF AI & DATA

LF AI & Data Foundation Announcement

New AI & Data Foundation Combines Industry's Fastest-Growing Open Source Developments in Artificial Intelligence and Open Data

The Linux Foundation's AI Foundation & ODPi merge to support growing portfolio of technologies and drive open source collaboration across AI and data

Press release / Blog post

LF AI & DATA

LF AI Foundation and ODPi merge efforts for open-source developments in AI and open data

Latest News   Published: October 26th, 2020 – Jakub Lewkowicz

🐦 ✉️ ➕

LF AI & DATA

The LF AI Foundation and ODPi merged to support a growing portfolio of technologies and to drive open-source collaboration across AI and

{* ARTIFICIAL INTELLIGENCE *}

Linux Foundation projects on AI and data merge – because one of these concepts simply can't exist without the other

Combined org hoping to attract more industry support

Mon 26 Oct 2020 // 15:17 UTC   💬 GOT TIPS?

Tim Anderson   BIO   EMAIL   TWITTER   SHARE

LF AI Foundation and Open Data Platform Initiative (ODPi), until now two orgs under the Linux Foundation umbrella, are merging to become the LF AI and Data Foundation, a home for projects devoted to AI, machine learning (ML), data, and analytics.

The new foundation was unveiled at the Open Source Summit Europe, which is of course virtual only (though held in timezones friendly

📰 **Open Source Insider**

Why ODPi & LF AI have come together

💬   🔗

Adrian Bridgwater

Published: 26 October 2020 14:27

🐦   in   ✉️

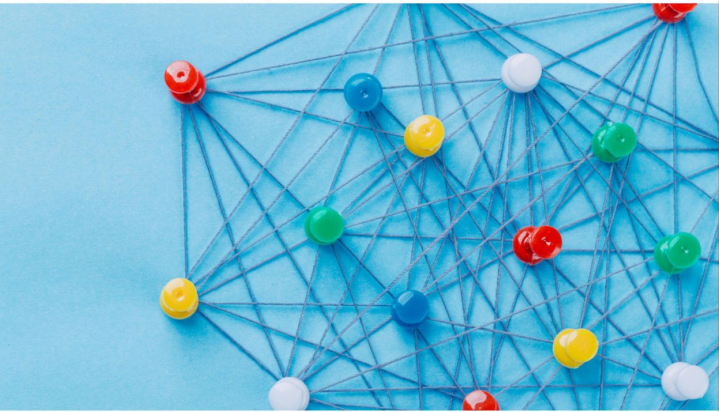*This is a guest post written by John Mertic in his role as ODPi program Director at The Linux Foundation — founded in 2000, the foundation is dedicated to building sustainable ecosystems around open source projects to accelerate development and adoption through financial and intellectual resources, infrastructure, services, events and training.*

CONTENT CONTINUES BELOW

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Linux Foundation unites open source AI and big data

October 26, 2020 3:15 PM | Alfred Monterie

Digital Transformation

LeMagIT

MOMIUS - FOTOLIA

Du Big Data à l'IA : ODPi fusionne avec la fondation LF AI

ODPi fusionne avec la LF AI and Data Foundation pour réunir des projets IA, gestion de données, open data et BI au sein d'une seule structure. Une étape qui marque un changement d'ère et des priorités au sein des entreprises.

Gaétan Raoul, LeMagIT

Publié le: **26 oct. 2020**

Après avoir accueilli les kits d'outils IBM consacrés à la transparence des algorithmes et le projet MLOps, nommé MLflow, de Databricks, la LF AI and Data Foundation (anciennement nommée LF AI), s'apprête à embarquer l'ensemble des projets inclus au sein d'ODPi. Sur le papier, les deux structures indépendantes embarquées au sein de la fondation Linux

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TFIR

LF AI, ODPi Merge To Form LF AI & Data Foundation

By **MONIKA CHAUHAN** ⏱ 14 hours ago

Share | Tweet | Share | Share

LF AI Foundation and ODPi have announced plans to come together under the new LF AI & Data Foundation. As one entity under the Linux Foundation, this consolidated and focused effort will enable additional collaboration and integration in the space of AI/ML/DL and Data.

IT Brief

LF AI & Data Foundation to support open source AI, data & analytics

📅 27 Oct 2020

👤 Newsdesk

SHARE:

in LinkedIn

🐦 Twitter

IT News > Software News> Open Source News

The LF AI & Data Foundation begins its journey

Monica Tilves ,October 26, 2020, 4:31 PM

OPEN SOURCE   **SOFTWARE**

It will support a total of 22 projects as a result of the merger between the LF AI Foun... and ODPi.

⚙ Privacy

Linux Foundation and ODPI establish LF AI & Data Foundation

From *Ulrich Bantle* - October 27, 2020

Offering an ecosystem for machine learning, artificial intelligence and deep learning based on free software is the task of the AI Foundation under the leadership of the Linux Foundation. Now the Open Data Platform initiative (ODPi), also under the leadership of the Linux Foundation, and the AI Foundation have merged to form the LF AI & Data Foundation.

As the Linux Foundation informs that portfolio of the two groups in terms of Artificial Intelligence (AI) and data continues to grow. Through the merger, one can devote more concentrated and focused attention to building an ecosystem. An important link in this chain is also the merger of the two communities. Artificial intelligence and data processing are inextricably linked, according to the foundation. The bundling of the two fields of competence under one roof and the control by a technical advisory board and committees on the individual aspects bring advantages.

In the course of the merger, the ODPi projects Egeria and OpenDS4All will be hosted by the new foundation. Business intelligence and AI have their own committees.

LE MONDE INFORMATIQUE

LOGICIEL / INTELLIGENCE ARTIFICIELLE

La Fondation Linux fusionne les projets IA et data dans une structure unique

Jacques Cheminat , publié le 27 Octobre 2020

Dans un souci de rationalisation, la Fondation Linux a décidé de réunir deux structures, la LF AI Foundation et l'Open Data Platforme Initiative (ODPi) pour devenir la LF AI and Data Foundation. Cette dernière abritera des projets consacrés à l'IA, au machine learning, aux données et à l'analytique.

Confidentialité

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heise online **heise +**

Machine Learning: LF AI Foundation und ODPi schließen sich zusammen

Die unter dem Dach der Linux Foundation aufgestellten Organisationen für künstliche Intelligenz und Big Data gehen in der neuen LF AI & Data Foundation auf.

Lesezeit: 1 Min. | speichern

09:41 Uhr | Developer

Von Rainald Menge-Sonnentag

Mit LF AI & Data Foundation existiert eine neue Organisation unter dem Dach der Linux Foundation. Sie ist das Ergebnis des Zusammenschlusses der

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Irish Tech News

HOMEPAGE > TECH NEWS

BUSINESS / FUTURE TRENDS / INNOVATION / TECH NEWS

LF AI Foundation- Sustaining open source innovation

New AI & Data Foundation Combines Industry's Fastest-Growing Open Source Developments In AI And Open Data

MACHINE LEARNING DEEP LEARNING NEWS

By **AIT News Desk** — On **Oct 27, 2020**

Share f 🐦

The Linux Foundation's AI Foundation & ODPi merge to support growing portfolio of technologies and drive open source collaboration across AI and data
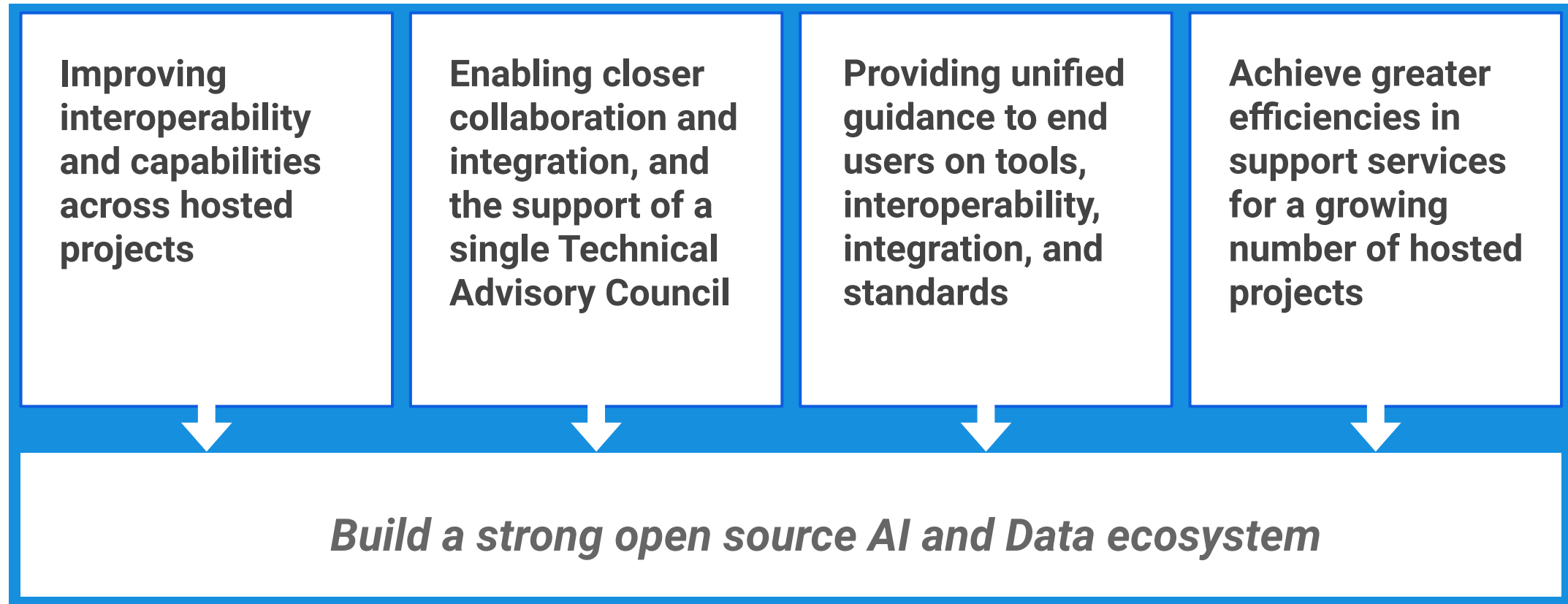
LF AI Foundation (LF AI), the organization

Motivations for Harmonization

Improving interoperability and capabilities across hosted projects

Enabling closer collaboration and integration, and the support of a single Technical Advisory Council

Providing unified guidance to end users on tools, interoperability, integration, and standards

Achieve greater efficiencies in support services for a growing number of hosted projects

Build a strong open source AI and Data ecosystem

Linux Foundation AI Landscape
2020-10-27T19:08:54Z 4a5775b

Greyed logos are not open source

Machine Learning

Framework
Accord.NET, FedAI, Angel (LF AI & Data), ForestFlow (LF AI & Data), Alibaba Alink, Apache SystemML, Microsoft LightGBM, MAHOUT, scikit-learn, opennn, learn, ML.NET, RAY

Platform
Angel (LF AI & Data), ForestFlow (LF AI & Data), Ax, cortex, H2O, Kubeflow, METAFLOW, mlflow, PredictionIO, SELDON, Vowpal Wabbit

Library
CatBoost, Spark MLlib, mlpack, 将军 Shogun, Sonnet, salesforce TransmogrifAI, dmlc XGBoost, xLearn

Deep Learning

Framework
SINGA, Chainer, Microsoft CNTK, dynet, Alibaba euler, [M]S MindSpore, mxnet, ncnn, 飞桨, Pythia, PYTORCH, TensorFlow

Platform
DeepDetect, Determined AI, jina, Polyaxon, 阿里巴巴 X-DeepLearning

Library
BigDL, Catalyst, DL4J, Keras, OpenMined PySyft, PyTorch Lightning

Tool
BoTorch, intel Distiller, plaidML, PyTorchBigGraph, PyTorch Geometric, tvm

Reinforcement Learning
Chainer RL, Coach, DeepMind Lab, Dopamine, Horizon, OpenAI, Google PlaNet, Google SEED RL, Stable Baselines

Programming
Pyro (LF AI & Data), DASK, Infer.NET, julia, NumPy, NYOKA, pomegranate, PyMC3, SciPy, Stan

Data

Notebook Environment
Apache Zeppelin, BeakerX, colab, Elyra, IP[y]: IPython, Jupyter, IBM, PolyNote, zmarkdown, Stencila, Streamlit

Versioning
dotscience, DVC, Pachyderm, Quilt

Store & Format
Milvus (LF AI & Data), ALLUXIO, ORC, ARESDB, ARROW, AVRO, DELTA LAKE, druid, hudi, JanusGraph, Parquet, pilosa, VEARCH, vespa

Operations
Amundsen (LF AI & Data), FEAST (LF AI & Data), Data Hub, great_expectations, MARQUEZ (LF AI & Data) Incubating, snorkel

Stream Processing
NNStreamer (LF AI & Data), brooklin, Pravega, Flink, kafka, PREFECT, samza, Uber uReplicator

SQL Engine
APACHE DRILL, presto, SQLFlow

Feature Engineering
Featuretools, tsfresh

Visualization
bokeh, plotly Dash, Uber deck.gl, Google Facets, Grafana, RCloud, NYU superconductor, Google TensorBoard

Pipeline Management
intel Analytics Zoo, beam, DAGSTER, TPOT

Labeling and Annotation
intel CVAT, Doccano, Label Studio, Labelbox, LabelImg, HITACHI, Microsoft VoTT

Governance
EGERIA (LF AI & Data), COMMUNITY DATA LICENSE AGREEMENT

Model

Benchmarking
DAWNBench, MLPerf

Training
HOROVOD (LF AI & Data), LUDWIG (LF AI & Data), talos, Microsoft Embedded Learning Library, Petastorm

Parameter
HYPEROPT

Format & Interface
ONNX (LF AI & Data), Uber Neuropod

Marketplace
Acumos (LF AI & Data), IBM

Workflow
Apache Airflow, nifi, argo, Azkaban, Cadence, Couler, CYCLONE, DataBolt d6tflow, Flyte, Kedro, Spotify luigi, mleap, PREFECT, TRAINS, VOLCANO

Inference
ADLIK (LF AI & Data), MNN, NVIDIA TensorRT, ONNX RUNTIME, PipelineAI, studio.ml, NVIDIA TensorRT Inference Server, uTensor, Google TensorFlow Model Analysis

Tool
Qualcomm AIMET, FACEBOOK dlrm, Microsoft MMdnn, AWS MMS, MDB, amazon Neo-AI, NETRON, AWS TorchServe, turi

Trusted & Responsible AI

Explainability
AI Explainability 360 (LF AI & Data), ALIBI, ELI5, Microsoft InterpretML, W Lime, Google Lucid, SHAP, SKATER, Bolt, TreeInterpreter

Adversarial
Adversarial Robustness Toolbox (LF AI & Data), AdvBox, advertorch, hans, UNIVERSITÄT TÜBINGEN Foolbox

Bias & Fairness
AI Fairness 360 (LF AI & Data), Aequitas Bias & Fairness Audit, Audit AI, Stanford University SMT, Fairlearn

Distributed Computing

Computing & Management
EDL Elastic Deep Learning (LF AI & Data), SOAJS (LF AI & Data), Apache Ambari, Bahir, MESOS, Apache Ranger, STORM, GNES, NETFLIX genie, kubernetes, intel Nauta, Singularity

Interface
sparklyr (LF AI & Data), APACHE TOREE, LIVY, Jupyter Enterprise Gateway Spark ReST

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
Google Differential Privacy, IBM HElib, Microsoft SEAL, SUBSTRA, Google TensorFlow Privacy, TF Encrypted

Natural Language Processing
DELTA (LF AI & Data), Google ALBERT, AllenNLP, Google Bert, CoreNLP, mozilla DeepSpeech, fastText, flair, GLUON, Kashgari, FACEBOOK LASER, Lucene, CISCO MindMeld, intel NLP Architect, snips NLP, ParlAI, FACEBOOK PyText, RASA, spaCy, Transformers, FACEBOOK XLM, YouTokenToMe

Education
OpenDS4All (LF AI & Data), DATAPRACTICES.ORG

Machine Learning

Framework	Platform	Library
Angel — LFAI Graduated	ForestFlow — LFAI Incubating	

Deep Learning

Framework	Platform	Library	Tool

Reinforcement Learning

Programming
Pyro — LFAI Incubating

Notebook Environment

Data

Versioning	Store & Format	Operations	Stream Processing	SQL Engine	Feature Engineering	Visualization	Pipeline Management	Labeling and Annotation	Governance
	Milvus — LFAI Incubating	Amundsen — LFAI Incubating / FEAST — LFAI Incubating / MARQUEZ — LFAI Incubating	NNStreamer — LFAI Incubating						EGERIA — LFAI Graduated

Model

Benchmarking	Training	Parameter	Format & Interface	Marketplace	Workflow	Inference	Tool
KOROVOD — LFAI Graduated	LUDWIG — LFAI Incubating		ONNX — LFAI Graduated	Acumos — LFAI Graduated		ADLIK — LFAI Incubating	

Trusted & Responsible AI

Explainability	Adversarial	Bias & Fairness
AI Explainability 360 — LFAI Incubating	Adversarial Robustness Toolbox — LFAI Incubating	AI Fairness 360 — LFAI Incubating

Distributed Computing

Computing & Management	Interface
EDL — LFAI Incubating / SOAJS — LFAI Incubating	sparklyr — LFAI Incubating

The LF AI landscape explores open source projects in the domains of artificial intelligence, machine learning, and deep learning.

LF AI Landscape
LF AI

l.lfai.foundation

Security & Privacy

Natural Language Processing
DELTA — LFAI Incubating

Education
OpenDS4AI — LFAI Incubating

A Growing LF AI & Data Project Portfolio and Community

Graduated LFAI Projects (5)

Acumos ★11 — LF Artificial Intelligence Foundation	**Angel-ML** ★6,003 — LF Artificial Intelligence Foundation
Egeria ★254 — LF Artificial Intelligence Foundation	**Horovod** ★10,182 — LF Artificial Intelligence Foundation
ONNX ★9,155 — LF Artificial Intelligence Foundation	

Incubating LFAI Projects (17)

Adlik ★127 — LF Artificial Intelligence Foundation	**Adversarial Robustness Toolkit** ★1,771 — LF Artificial Intelligence Foundation
AI Explainability 360 Toolkit ★682 — LF Artificial Intelligence Foundation	**AI Fairness 360 Toolkit** ★1,095 — LF Artificial Intelligence Foundation
Amundsen ★1,388 — LF Artificial Intelligence Foundation	**DELTA** ★1,302 — LF Artificial Intelligence Foundation
Elastic Deep Learning (EDL) ★102 — LF Artificial Intelligence Foundation	**Feast** ★1,085 — LF Artificial Intelligence Foundation
ForestFlow ★38 — LF Artificial Intelligence Foundation	**Ludwig** ★7,133 — LF Artificial Intelligence Foundation
Marquez ★374 — LF Artificial Intelligence Foundation	**Milvus** ★4,216 — LF Artificial Intelligence Foundation
NNStreamer ★287 — LF Artificial Intelligence Foundation	**OpenDS4All** ★119 — LF Artificial Intelligence Foundation
Pyro ★6,526 — LF Artificial Intelligence Foundation	**SOAJS** ★41 — LF Artificial Intelligence Foundation
sparklyr ★754 — LF Artificial Intelligence Foundation	

Companies hosting projects in LF AI

https://landscape.lfai.foundation/format=hosting

amazon AT&T Baidu 百度 DiDi DREAMWORKS FACEBOOK Herron Tech

IBM lyft Microsoft gojek R Studio SAMSUNG Tech Mahindra

Tencent 腾讯 Uber wework ZILLIZ Reinvent Data Science ZTE

LF AI & DATA

Looking to host a project with LF AI & Data

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

› Offered services for hosted projects:
https://lfai.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.

LF AI & DATA

Note on quorum

As LF AI & Data is growing, we now have 16 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

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Upcoming Events

› Upcoming Events
  › Visit the LF AI & Data Events Calendar or the LF AI & Data 2020 Events wiki for a list of all events
  › To participate visit the LF AI & Data 2020 Events wiki page or email info@lfai.foundation

› Please consider holding virtual events

To discuss participation, please email events@lfai.foundation

LF AI & DATA

Upcoming Events

End of the year wrap-up

Nov18 - Open Forum Europe - Turning Ethical AI into Technical Reality
https://www.openforumeurope.org/event/turning-ethical-ai-into-technical-reality/

Just completed

China Open Source Conference - Oct 25

LF AI Mini Summit at OSS EU – Virtual – Oct 29
October 29 @ 12:00 am
LF AI Foundation will hold a Mini Summit at Open Source Summit EU (OSS EU)

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Over 230K live viewers (over 1M viewers total)
China Open Source Conference (Oct 25)
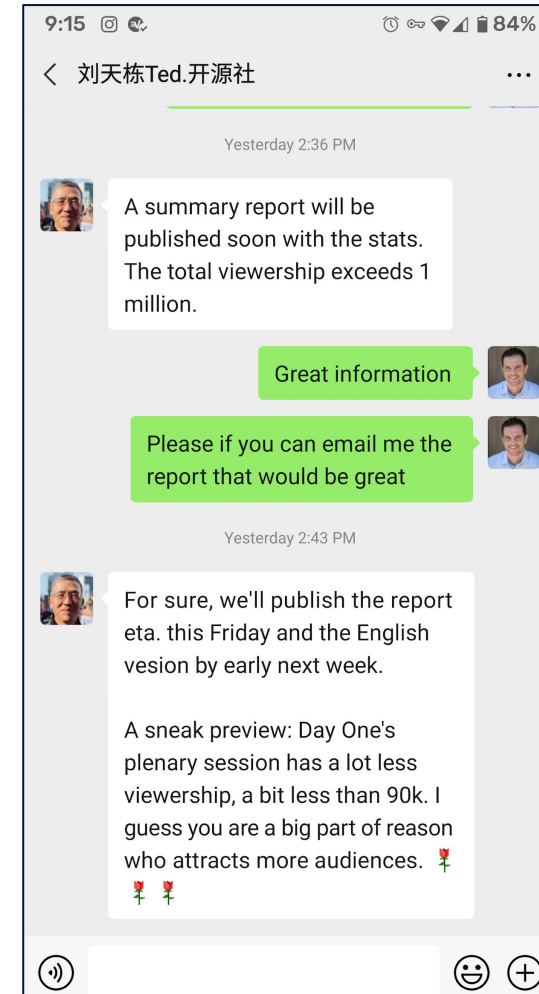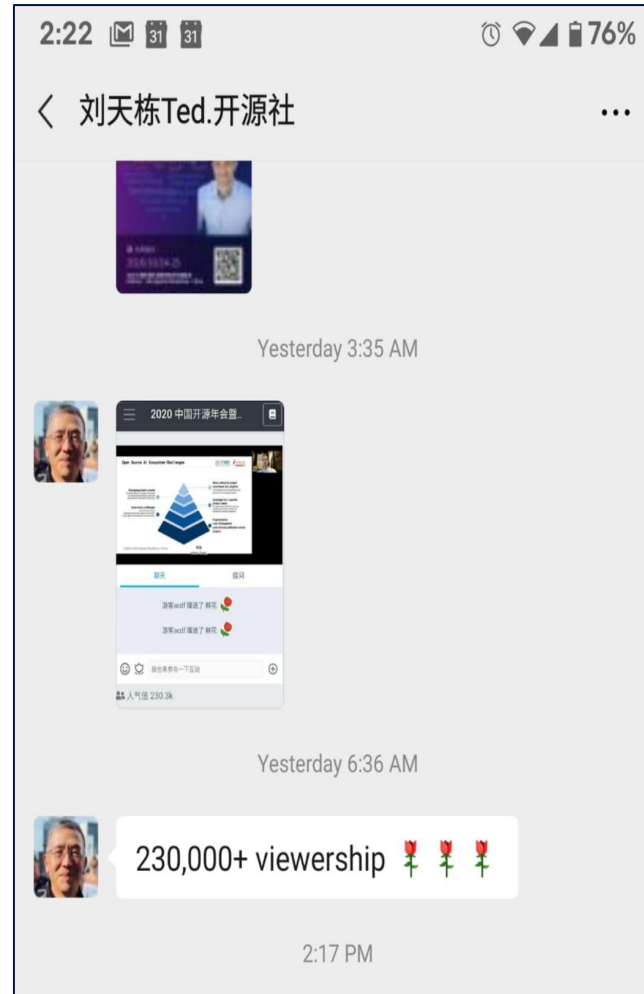
Workshop on Ethical AI in collaboration with Open Forum Europe and hosted by the EU Parliament
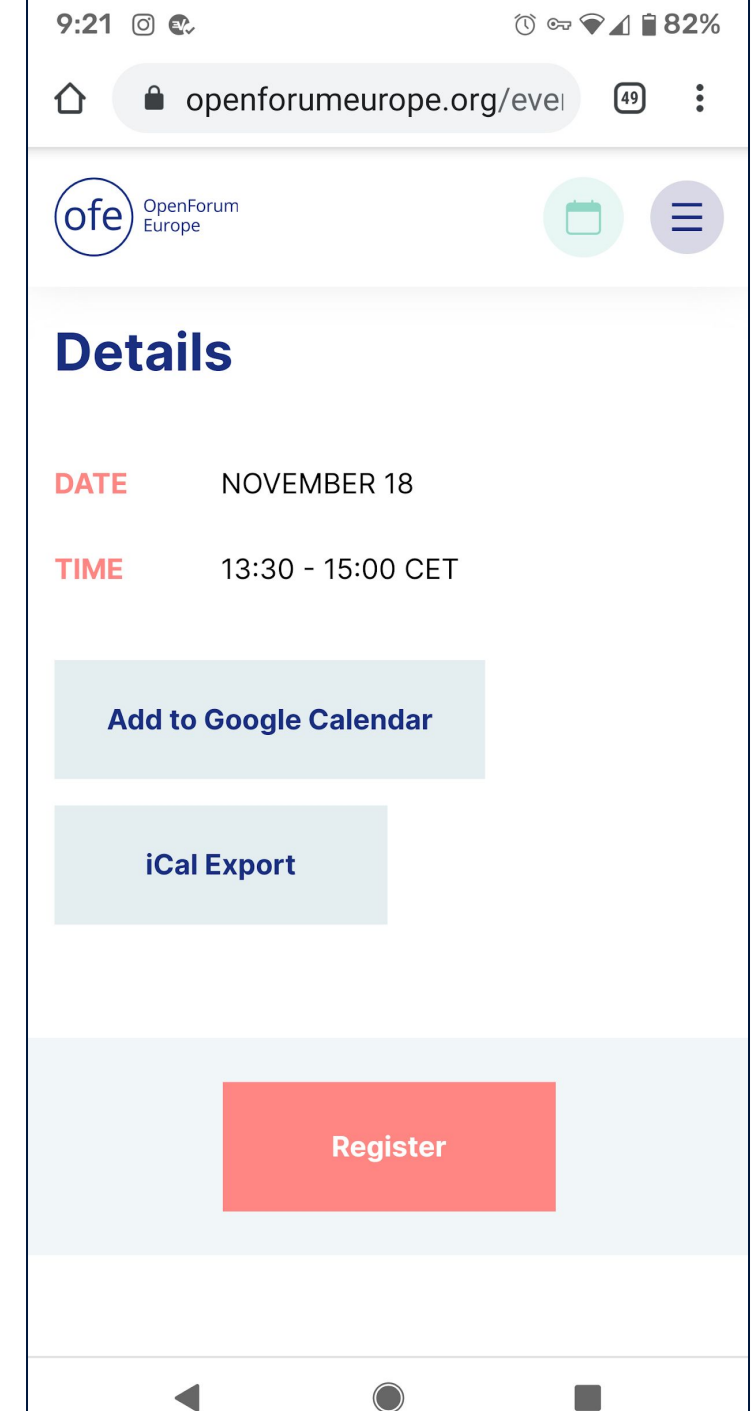
LF AI PR/Comms

› 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@lfai.foundation

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Call to Participate in Ongoing Efforts

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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:**
  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

ML Workflow & Interop

- › **Leadership:**
  Huang "Howard" Zhipeng (Huawei)
- › **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

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Launching an 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.lfai.foundation/g/aiethics-training

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Upcoming TAC Meetings

Upcoming TAC Meetings

› **November 19th:** Tentative new incubation project

› **December 3rd :** RosaNLG & tentative JanusGraph incubation project

› **December 17th:** Tentative Pyro graduated project proposal and additional new incubation project

› **December 31st :** No meeting - New Years Eve Holiday

› **January 14th:** TBD

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

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

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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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