

Technical Advisory Council Meeting

September 10, 2020

 THE **LINUX** FOUNDATION

 **LF AI**

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Recording of Calls

Reminder:

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

We are tight on timing. Please try to stick to allotted time per agenda item.

- › Roll Call (3 mins)
- › Approval of Minutes (3 mins)
- › Project Contribution Proposal: Delta + TAC Vote (15 mins)
- › Project Contribution Proposal: SOAJS + TAC Vote (35 mins - presentation, demo, Q&A, vote)
- › Upcoming TAC Meetings (1 mins)
- › Open Discussion (if time allows)

TAC Voting Members

Member	Contact	Email
AT&T	Anwar Atfab	anwar@research.att.com
Baidu	Daxiang Dong	dongdaxiang@baidu.com
Ericsson	Rani Yadav-Ranjan	rani.yadav-ranjan@ericsson.com
Huawei	Huang Zhipeng	huangzhipeng@huawei.com
IBM	Susan Malaika	malaika@us.ibm.com
Nokia	Pantelis Monogioudis	pantelis.monogioudis@nokia.com
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Acumos AI Project	Nat Subramanian	natarajan.subramanian@techmahindra.com
Angel Project	Bruce Tao	brucetao@tencent.com
Horovod Project	Travis Addair	taddair@uber.com
ONNX Project	Jim Spohrer*	spohrer@us.ibm.com

* TAC Chairperson

Approval of Minutes - Aug 13

Draft minutes from the August 13th TAC call were previously distributed to the TAC members via the mailing list

Proposed Resolution:

- › That the minutes of the August 13th meeting of the Technical Advisory Council of the LF AI Foundation are hereby approved

Approval of Minutes - Aug 27

Draft minutes from the August 27th TAC call were previously distributed to the TAC members via the mailing list

Proposed Resolution:

- › That the minutes of the August 27th meeting of the Technical Advisory Council of the LF AI Foundation are hereby approved

Project Contribution Proposal: DELTA

DELTA full TAC presentation

DELTA was fully presented during the TAC call on August 13th ([slides](#)).

The purpose of this presentation is a quick recap of the project and a request to incubate DELTA in LF AI.

Project Contribution Proposal: DELTA

DELTA is a deep learning based **end-to-end natural language and speech processing platform**. DELTA aims to provide easy and fast experiences for using, deploying, and developing natural language processing and speech models for both academia and industry use cases. DELTA is mainly implemented using TensorFlow and Python 3.

- › **GitHub:** <https://github.com/didi/delta>
- › **Projects Level:** Incubation
- › **Presenter(s):** Yunbo Wang
- › **Proposal:** <https://github.com/lfai/proposing-projects/blob/master/proposals/DELTA-LFAI-ProjectProposal.md>

DELTA

A Deep Language Technology Platform

Kun Han, Junwen Chen, Hui Zhang, Haiyang Xu, Yiping Peng, Yun Wang, Ning Ding, Hui Deng, Yonghu Gao, Tingwei Guo, Yi Zhang, Yahao He, Baochang Ma, Yulong Zhou, Kangli Zhang, Chao Liu, Ying Lyu, Chenxi Wang, Cheng Gong, Yunbo Wang, Wei Zou, Hui Song, and Xiangang Li

AI Labs, DiDi Chuxing*



DELTA Goals

- ❑ Easy to deploy
 - ❑ Models are transparent to production
- ❑ Easy to experiment
 - ❑ Modularized components. Easy to add or change the structures.
- ❑ Easy to use
 - ❑ Engineers only need to care about data. No model knowledge required.
 - ❑ Experts can specify detailed structures and parameters. Flexibility.
- ❑ Goals
 - ❑ Internal: Speed-up development cycle
 - ❑ External: Output NLU and Speech technology

DELTA training platform



DELTA
a deep learning language technology platform

A uniform platform for modeling speech and text data



<https://github.com/didi/delta>



DELTA training platform

didi / delta

Watch 52 Star 1.3k Fork 255

Code Issues 1 Pull requests 2 Actions Projects 3 Wiki Security Insights

master 6 branches 7 tags

Go to file Add file Code

zh794390558 Merge pull request #232 from didi/pip ✓ e64d17f 13 days ago 903 commits

.github	fix spk model for resnet, mix update and fix (#71)	12 months ago
.pip	update pip	13 days ago
core	update ops of features	last month
delta	Merge pull request #226 from didi/new_ops	last month
deltann	Merge pull request #230 from didi/fix	15 days ago
docker	fix install	9 months ago
docs	add release version doc	5 months ago
dpl	fix missing tensorflow::Status and tensorflow::TensorShapeUtils::M...	2 months ago
egs	support transfer learning for estimator	last month
nncorner	duplicate enable cubind11 module	15 days ago

About

DELTA is a deep learning based natural language and speech processing platform.

[delta-didi.readthedocs.io](https://github.com/didi/delta)

nlp deep-learning tensorflow
speech sequence-to-sequence
seq2seq speech-recognition
text-classification speaker-verification
nlu text-generation
emotion-recognition
tensorflow-serving tensorflow-lite
inference asr serving
front-end custom-ops ops

Readme

<https://github.com/didi/delta>



DELTA Community

Contributors

- DIDI AI LABS
- Academic students
- Industrial users

Users

- DIDI internal users
- Academic students
- Industrial users

Adopters

- Academic students
- Industrial users

Why donate DELTA?

Neutral holding ground

- Vendor-neutral, Not for profit;

Growing community

- Increase contributors by converting new and existing users;
- Opportunities to collaborate with other hosted projects;
- Increase users by broader outreach through the foundation;

Open Governance model

- Open governance + open source license;
- Distills trust in the running and management of the project;
- Neutral management of projects' assets by the foundation;

Possible collaboration

Horovod (<https://github.com/uber/horovod>)

- Integrate Horovod to support distributed deep learning training;

EDL (<https://github.com/elasticdeephlearning/edl>)

- Integrate EDL to make training and inference of deep learning models on cloud easier and more efficient

LF AI TAC Vote

LF AI TAC to vote in support of hosting DELTA in LF AI.

Proposal: <https://github.com/lfai/proposing-projects/blob/master/proposals/DELTA-LFAI-ProjectProposal.md>



DELTA
a deep learning language technology platform

A uniform platform for modeling speech
and text data



<https://github.com/didi/delta>





Thank you !

<https://github.com/didi/delta>

TAC Vote on Project Proposal: Delta

Proposed Resolution:

The TAC approves the Delta Project as an Incubation project of the LF AI Foundation

Next Steps

LF AI staff will work with DELTA to onboard the project leading to the announcement of the project joining LF AI

Explore potential integrations between the project and other LF AI projects

Integrate the project with LF AI operations

Project Contribution Proposal: SOAJS

Project Contribution Proposal: SOAJS

- › **Description:** SOAJS is an open source microservices and API management platform, SOAJS eliminates the IT plumbing challenges, so you can deploy microservices significantly earlier and faster. IT initiatives such as digital transformation are simplified, accelerated, cost reduced, and risk mitigated. Our fully integrated, world-class API lifecycle management, multi-cloud orchestration, release management, and IT Ops automation capabilities eliminate your IT organization's modernization pain.
- › **Alignment with LF AI's mission:** SOAJS API-Aware pipeline can be a key contribution to LF AI ML Workflow and interop committee by helping multiple projects close the loop and take advantage of its Multi Environment Marketplace, Automated Cataloging, Smart Deployment, Multi Tenant Authentication/Authorization Gateway, and Middleware to standardize, release, deploy and operate ML models the way Acumos is using it today.
- › **GitHub:** <https://www.github.com/soajs>
- › **Projects Level:** Incubation
- › **Presenter(s):** Antoine Hage
- › **Proposal:** <https://github.com/lfai/proposing-projects/blob/master/proposals/soajs.adoc>



Enterprise API & Microservice
Management

(EAMM) Platform



Goals of project hosting being part of LF AI

- soajs was created on 2015 as an open source project
 - The platform scope was huge and will fail if it ends up being developed in an R&D lab without real case production feedbacks from multiple design clients.
 - The platform covers the API lifecycle from inspection to deployment and operation that touches so many different technologies requiring many expertise.
- soajs today is looking for neutral governance to increase adoption and collaboration
- soajs community is driven by individuals and looking forward to work with LFAI to engage organizations
- soajs looking for experts to help grow this platform
- soajs is looking to be part of an ecosystem with international expertise and reach
- soajs is looking to work collaboratively with other LF open source projects especially in LFAI (ie. Acumos)
- soajs is looking to collaborate in LF AI ML Workflow and InterOP Committee
- HerronTech (soajs) team is looking forward to be a member of LF AI



Existing use of SOAJS in Acumos project, a graduated project of LF AI



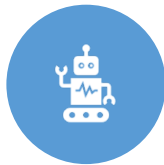
SOAJS MULTI
TENANT GATEWAY



SOAJS MULTI
TENANT
AUTHENTICATION
AND
AUTHORIZATION



SOAJS MULTI
CLOUD
ORCHESTRATION



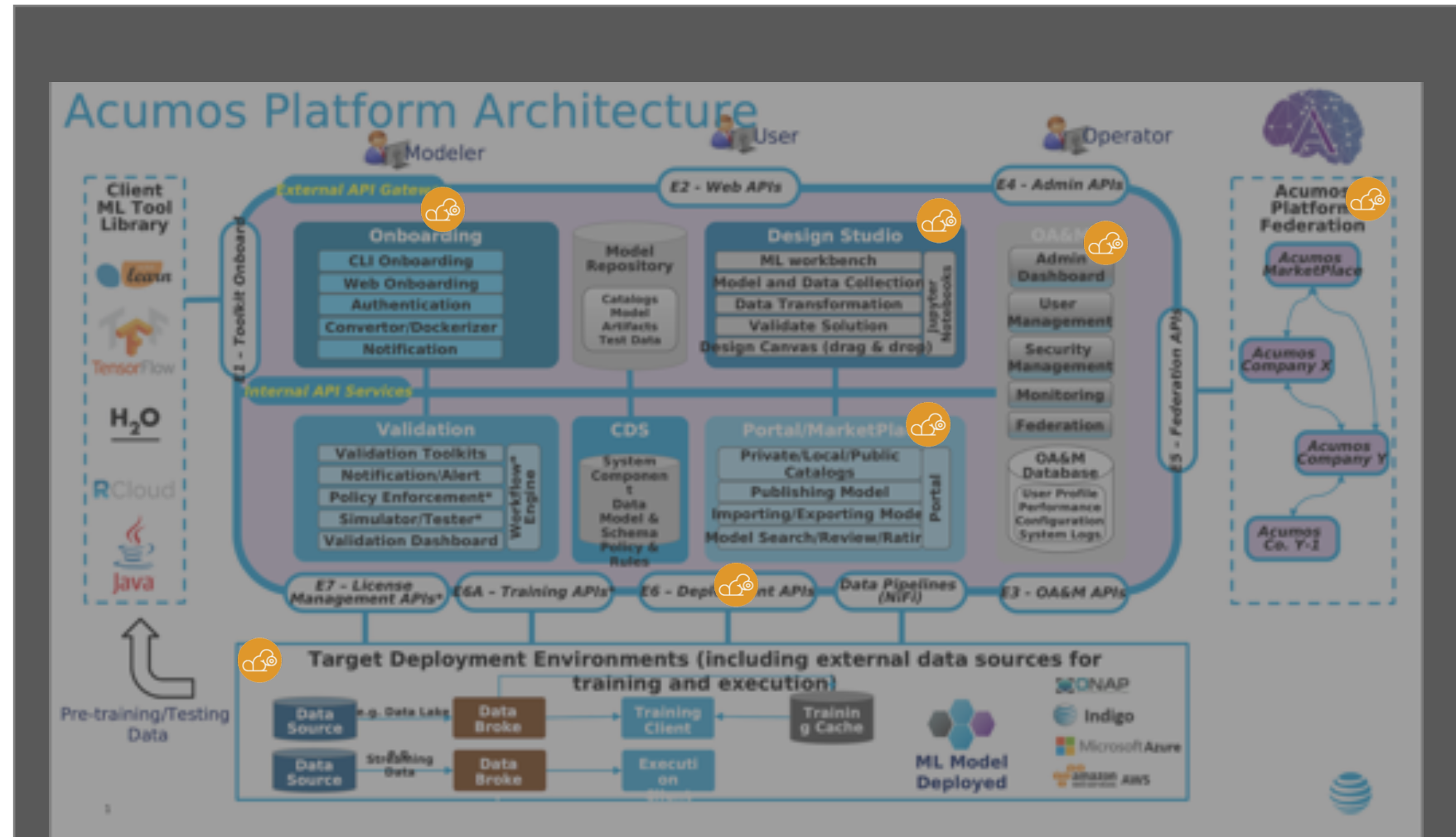
SOAJS SMART
RELEASE



SOAJS CATALOG



SOAJS
HETEROGENOUS
AND ADAPTABLE
MARKETPLACE



API-Aware pipelines can be a key contribution to LF AI ML Workflow and Interop Committee

- API Builder
- Your IDE platform – not ours
- Passthrough & smart endpoints, microservices
- Easily adapt to existing APIs & legacy systems

- API Catalog with user ACL
- Swagger support
- Automated API entry
- Search/documentation/tags

- Multi-cloud infrastructure, source code & resources
- Infra as Code native & 3rd party support
- Container & VM orchestration
- Import/export/clone environments

- Deploy newly introduced resources
- Bridge to existing resources
- Databases, mainframes
- Customized, packaged & native applications
- Existing APIs

ML MODEL

Build API

Visualize API

Create API Environment

API Resource Management

Does your DevOps automatically update your API catalog to reduce errors & improve agility?

Does your DevOps help you manage multi-versions?

Does your DevOps handle the resources your APIs & Microservices need?

Does your DevOps smoothly manage multi environment and multi version releases within a multi-tenant architecture?

Does your DevOps securely manage the authentication & authorization of your APIs, even end-users?

API/Resource/Infra Monitoring & Analytics

API Gateway

API Release Management

API Packaging & Access Control

- Analytics & metrics
- Monitoring & log correlation
- Resource & traffic analytics, error logs correlation

- Multi-security, multi-tenant
- Productization
- Throttling, access control & priority
- Authentication & authorization
- Microservices with resource awareness & configuration automation

- Custom CI/CD, Smart Release
- Multi-integration server
- Multi-GIT server
- Deploy from any source code
- Multi-tenant & environment
- Deployment catalog

- Multi-security, multi-tenant
- Multi-version
- Authentication & authorization

SOAJS releases

- We follow fish names, we did the following releases so far:

*Clownfish, Goldfish, Thornfish, Trunkfish, Dragonfish, Tigerfish, Lionfish, Bluefish, Beardfish, Jawfish, Electric Eel, Mantra Ray, Bull Shark, Salmon Shark, Hammerhead, Whale Shark, River Shark, Great White Shark, Orca, Blue Whale, Humpback Whale, Fin Whale, Gray Whale, Sword Fish, Dolphin, Piranha, Devario, Bitterling, Banjo, Kanuy, today we are at **stingray**.*

- We also push patches per release that are numbered like Kanuy 4, Kanuy 5, ...
- Each release or patch might affect several repositories and each source code has its own semantic version and each microservice has its own version.
- For example soajs.urac:
 - The source code version is 4.0.12
 - The microservice version is 3

Next 3 Releases

Jul 2020
Stingray 1 - alpha

Aug 2020
Stingray 1

Sep 2020
Stingray 2

- Complete Kubernetes management for large scale clusters
- Add custom catalog
- Add resource catalog
- Add front end catalog
- Add ACL to infrastructure drivers
- Add ACL to environments
- Add ACL to custom registry
- Add ACL to resource configuration
- Add main tenant roaming

- Add more test cases to increase coverage
- Finish documentations
- Add front end ACL based on the new packages
- Move catalog recipe to marketplace
- Enhance create secret to be able to add multi labels
- Change how we fetch console product to allow having more than one product
- Add the ability to change the commit when deploy or re-deploy from source code

- Create endpoint catalog
 - Passthrough and Smart
- Create application catalog
- Enhance multitenant service and remove ui dependencies from dashboard
- Add the ability to view a consolidated acl view per environment
- Add granular acl capability to console product
- Make URAC emails multi lingual
- Pin code login must be off by default

How things happen

We have a mile long backlog and any contributor can add stories to the backlog.

We brainstorm and with couple of planning sessions we decide what feature is the right feature to add and in what release or patch.

We work on the API contract first and make sure it is thoughtful and fits well within our API productization catalog.

The definition of DONE is when:

- **The code is written based on our standard**
- **Unit test is there with coverage above 90%**
- **Integration test is there with coverage above 80%**
- **Documentation is complete**

Antoine Hage is the technical steering committee chair of SOAJS

SOAJS standardization overview

- Built base on microservices architecture
- Source code versioning control is with github
 - We follow the git flow methodology
 - We tag the master branch and release from release branch
 - We have a release branch per major version
- We use Travis CI to build and automatically release
 - Our versioning strategy gives the option pick between
 - Semantic version aka 1.2.3
 - Or major version aka 1.x
 - Packages are published to npm
 - Images are published to docker hub
- We have our own style in build microservices
- All documentation are on confluence
- Our backlog is in JIRA



SOAJS documentation

The screenshot shows the documentation for URAC v3. The left sidebar contains a navigation menu with sections like '01 APIs', '02 Data Models', '03 Architecture', '04 Configuration Steps and requirements', and '05 Migration from V2 to V3'. The main content area is titled 'URAC v3' and includes a 'Welcome to URAC v3 documentation' message. It lists sections for '01 APIs', '02 Data Models', '03 Architecture', and '04 Configuration Steps and requirements', each with an 'Introduction' link. The '04 Configuration Steps and requirements' section lists '1. Password generation configuration'.

SOAJS github organization

The screenshot shows the GitHub organization page for 'soajs'. It features a header with the organization name and a description: 'Complete enterprise open source microservice management platform'. Below the header, there are statistics for 'Repositories: 54', 'Packages', 'People: 23', 'Teams: 9', and 'Projects: 1'. A search bar and filters for repository type and language are visible. A list of repositories is shown, including 'soajs.dashboard.ui', 'soajs.urac', 'soajs.urac.driver', 'soajs.seed', 'soajs', and 'soajs.controller', each with its language, license, and update status.

Some of the contributing companies

A collection of logos for companies that contribute to SOAJS. The logos include 'Herron tech', 'Acumos AI', 'YellowPages', 'imateco', 'RockSoon', and 'AT&T'. The logos are arranged in a grid-like fashion on a dark background.

SOAJS npm

The screenshot shows the npm package page for 'soajs'. It displays the version '4.0.16', 'Public' status, and 'Published an hour ago'. Key statistics include '12 Dependencies', '17 Dependents', and '156 Versions'. The page includes a 'Readme' tab, 'Explore' button, and 'Settings' icon. A description states: 'SOAJS is an open source dream framework that empowers building crazy fast the API-nization layer between the product frontend (UI/UX) and backend (business logic)'. It also lists 'Some of soajs advantages:' and provides installation instructions: 'npm i soajs'. A 'Weekly Downloads' chart shows 485 downloads, and the license is listed as 'Apache-2.0'.

SOAJS images

The screenshot shows the Docker Hub page for the 'soajsorg/soajs' image. It features the Docker Hub logo and search bar. The page title is 'soajsorg/soajs' with a star icon and 'Pulls 500K+'. The description states: 'By soajsorg • Updated 8 months ago' and 'This is the official soajs image to build services or daemons'. The 'Container' tag is visible, and there are tabs for 'Overview' and 'Tags'.

500+ download per week, more than 500k pull for our images, 20+ contributor

A close-up, shallow depth-of-field photograph of a control panel. The panel is dark grey or black and features several metallic knobs and switches. The knobs are arranged in two rows. The top row has three knobs, and the bottom row has two. The knobs have a textured, cylindrical top. The background is blurred, showing a person's face and a blue object, possibly a piece of equipment or a person's clothing.

DEMO

Explore the power of SOAJS

Thank you

<https://www.soajs.org>

<https://www.github.com/soajs>

<https://soajsg.org.atlassian.net/wiki/home>

antoine@soajs.org

TAC Vote on Project Proposal: SOAJS

Proposed Resolution:

The TAC approves the SOAJS Project as an Incubation project of the LF AI Foundation

Next Steps

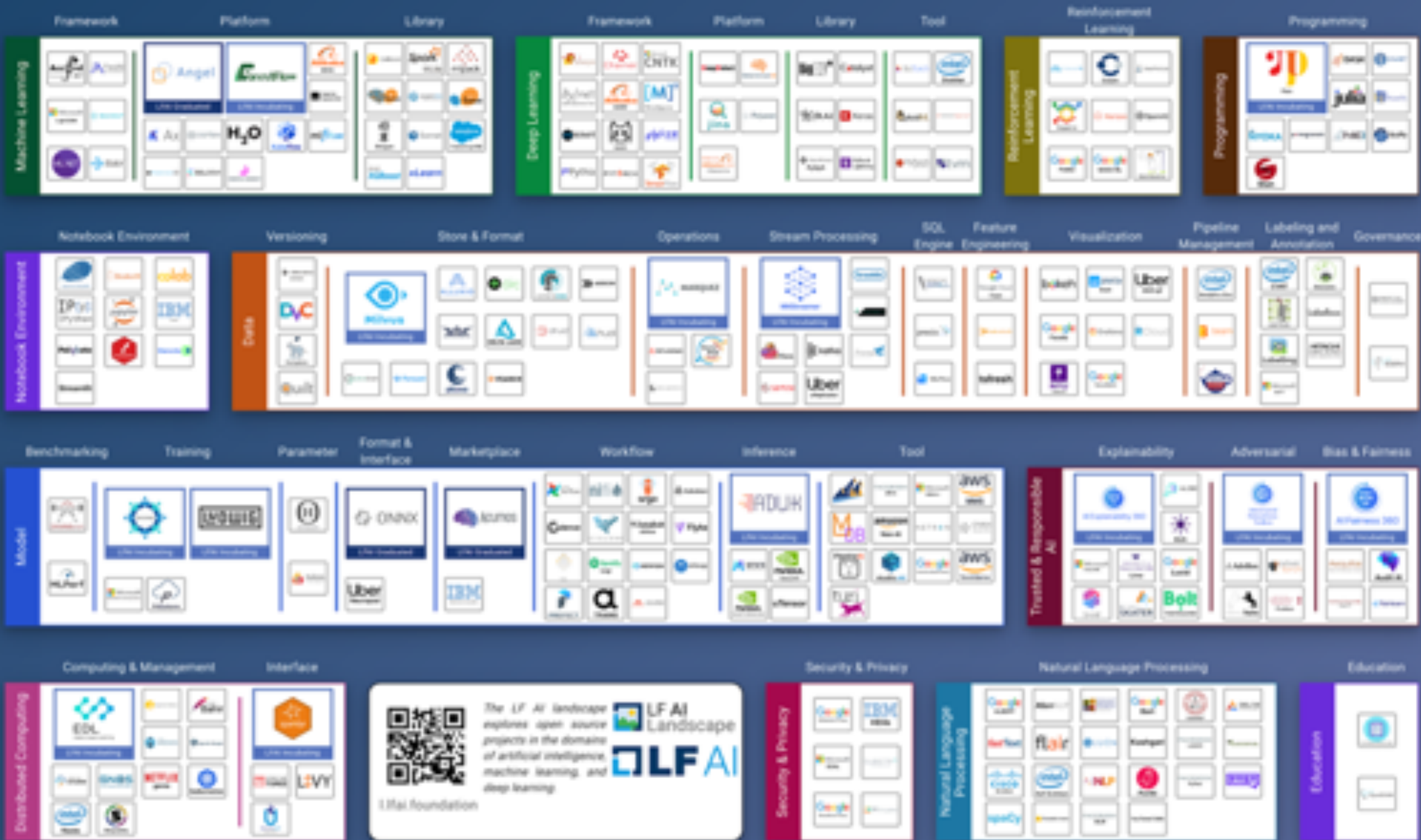
LF AI staff will work with SOAJS to onboard the project leading to the announcement of the project joining LF AI

Explore potential integrations between the project and other LF AI projects

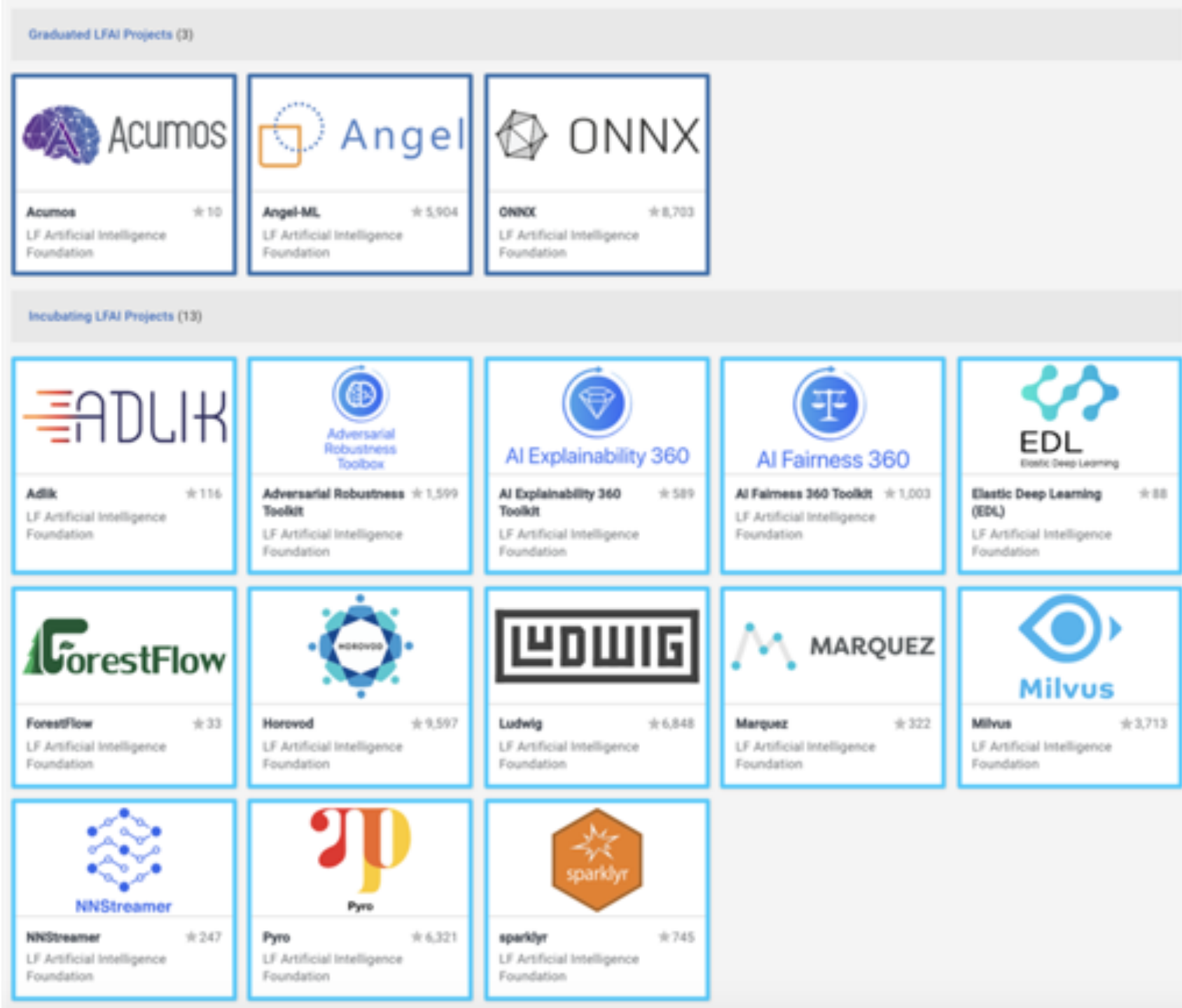
Integrate the project with LF AI operations

LF AI General Updates

A Growing Landscape 253 projects



A Growing LF AI Project Portfolio



A Growing Developer Community

Acumos
Adlik
Adversarial Robustness 360
AI Explainability 360
AI Fairness 360
Angel
EDL
ForestFlow
Horovod
Ludwig
Marquez
Milvus
nnstreamer
ONNX
Pyro
Sparklyr

You are currently tracking **7,310,710 lines of code**, committed by **1,119 developers**, from **46 known organizations**, working in **76 repos**, on **16 projects** over the last **6 years, 6 months, and 14 days**.

A Growing Community

- 17 projects, 77 repos
- Over 7.4 M LoC
- 1170+ active developer
- 49 known organizations
- 22 universities contributing code

* Data as of 08/03/2020

Companies hosting projects in LF AI

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



Looking to host a project with LF AI

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)

Promoting Upcoming Project Releases

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

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

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.

Note on quorum

As LF AI is growing, we now have 14 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.

Updates from the Outreach Committee

Events

- › Upcoming Events
 - › Visit the [LF AI Events Calendar](#) or the [LF AI 2020 Events wiki](#) for a list of all events
 - › To participate visit the [LF AI 2020 Events wiki page](#) or email info@lfai.foundation
- › Please consider holding virtual events
 - › To discuss participation, please email events@lfai.foundation

Upcoming Events

LF AI Booth at ONES – Sept 28-30

September 28 - September 30

LF AI Foundation will have a booth at Open Networking & Edge

LF AI Booth at OSS EU – Oct 26-28

October 26 - October 28

LF AI Foundation will have a booth at Open Source Summit Europe (OSS EU)

“AI/ML/DL presented by LF AI Foundation” Track at OSS EU – Oct 26-28

October 26 - October 28

"AI/ML/DL presented by LF AI Foundation" Track at Open Source Summit Europe (OSS EU)

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)

LF AI PR/Comms

- › Please follow LF AI 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 Blog](#)
- › Open call to publish project/committee updates or other relevant content on the [LF AI Blog](#)
- › To discuss more details on participation or upcoming announcements, please email pr@lfai.foundation

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:**
<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?pageld=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?pageld=18481242>

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

- › The LF would cover the cost of the production and promotion
- › The course would be offered for free
- › The credit of the course will go to content creator and their organizations
- › Initial interested parties: IBM, AI for People, Montreal AI Ethics Institute, Ethical ML Institute
- › **To participate:**
<https://lists.lfai.foundation/g/aiethics-training>

Upcoming TAC Meetings

Upcoming TAC Meetings

- › **September 24:** To be announced
- › **October 8 :** To be announced

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>

Open Discussion

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- › Please email legal@linuxfoundation.org with any questions about The Linux Foundation's policies or the notices set forth on this slide.