

Meeting of the LF AI & Data Technical Advisory Council (TAC)

September 22, 2022

 LF AI & DATA

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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_-czASlz2GTBRZk2/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>

Agenda

- › Roll Call (2 mins)
- › Approval of Minutes from previous meeting (2 mins)
- › Elyra – Proposed new sandbox project (30 minutes)
- › LF AI General Updates (2 min)
- › Open Discussion (2 min)

TAC Voting Members - Please note

Please ensure that you do the following to facilitate smooth procedural quorum and voting processes:

- Change your Zoom display name to include your First/Last Name, Company/Project Represented
 - example: Nancy Rausch, SAS
- State your First/Last Name and Company/Project when submitting a motion
 - example: First motion, Nancy Rausch/SAS

TAC Voting Members

Note: we still need a few designated backups specified on [wiki](#)

Member Representatives (8 out of 16 required for quorum)

Member Company or Graduated Project	Membership Level or Project Level	Voting Eligibility	Country	TAC Representative	Designated TAC Representative Alternates
4paradigm	Premier	Voting Member	China	Zhongyi Tan	
Baidu	Premier	Voting Member	China	Ti Zhou	Daxiang Dong, Yanjun Ma
Ericsson	Premier	Voting Member	Sweden	Rani Yadav-Ranjan	
Huawei	Premier	Voting Member	China	Howard (Huang Zhipeng)	Charlotte (Xiaoman Hu) , Leon (Hui Wang)
Nokia	Premier	Voting Member	Finland	@ Michael Rooke	@ Jonne Soininen
OPPO	Premier	Voting Member	China	Jimmy (Hongmin Xu)	
SAS	Premier	Voting Member	USA	*Nancy Rausch	JP Trawinski
ZTE	Premier	Voting Member	China	Wei Meng	Liya Yuan
Adversarial Robustness Toolbox Project	Graduated Technical Project	Voting Member	USA	Beat Buesser	
Angel Project	Graduated Technical Project	Voting Member	China	Bruce Tao	Huaming Rao
Egeria Project	Graduated Technical Project	Voting Member	UK	Mandy Chessell	Nigel Jones, David Radley, Maryna Strelchuk, Ljupcho Palashevski, Chris Grote
Flyte Project	Graduated Technical Project	Voting Member	USA	Ketan Umare	
Horovod Project	Graduated Technical Project	Voting Member	USA	Travis Addair	
Milvus Project	Graduated Technical Project	Voting Member	China	Xiaofan Luan	Jun Gu
ONNX Project	Graduated Technical Project	Voting Member	USA	Alexandre Eichenberger	Prasanth Pulavarthi, Jim Spohrer
Pyro Project	Graduated Technical Project	Voting Member	USA	Fritz Obermeyer	

*Current TAC Chairperson

Minutes approval

Approval of August 25, 2022 Minutes

Draft minutes from the August 25 TAC call were previously distributed to the TAC members via the mailing list

Proposed Resolution:

- › That the minutes of the August 25 meeting of the Technical Advisory Council of the LF AI & Data Foundation are hereby approved.

Introducing Elyra-Pipelines

Elyra at LF AI + Data
22nd of September 2022



By The Elyra Community
CODAIT – IBM Center for Open Source Data and AI Technologies
Romeo Kienzler

What is Elyra-Pipelines

Elyra-Pipelines is a generic No Code / Low Code Data and AI development environment scaling from a developer's notebook to supercomputers

The screenshot displays the Elyra Pipelines web interface. On the left is a file explorer for the workspace `/demo-covid-notebooks/`. The main area shows a workflow diagram with nodes: `etl_us_census...`, `etl_us_data.ip...`, `Clean`, `clean_us_data...`, `demographics...`, `analyze_fit_us...`, `fit_us_data.ip...`, `maps_us_data...`, `tables_us_dat...`, and `timeseries_us...`. The `fit_us_data.ip...` node is highlighted. On the right, the 'PIPELINE PROPERTIES' panel is visible, containing sections for Label, Filename (with a `./notebooks/fit_us_data.ipynb` field and a `Browse` button), Runtime Image (set to `COVID with Anaconda Python 3`), CPU, GPU, and RAM specifications, File Dependencies (with a `util.py` field and `Add Item` / `Browse` buttons), Include Subdirectories (with a checked checkbox), Environment Variables (with `Add Item` / `Refresh` buttons), and Output Files (listing `outputs/us_counties_curves.csv`, `outputs/us_counties_curves_meta.json`, and `outputs/us_counties_curves_params.csv`).

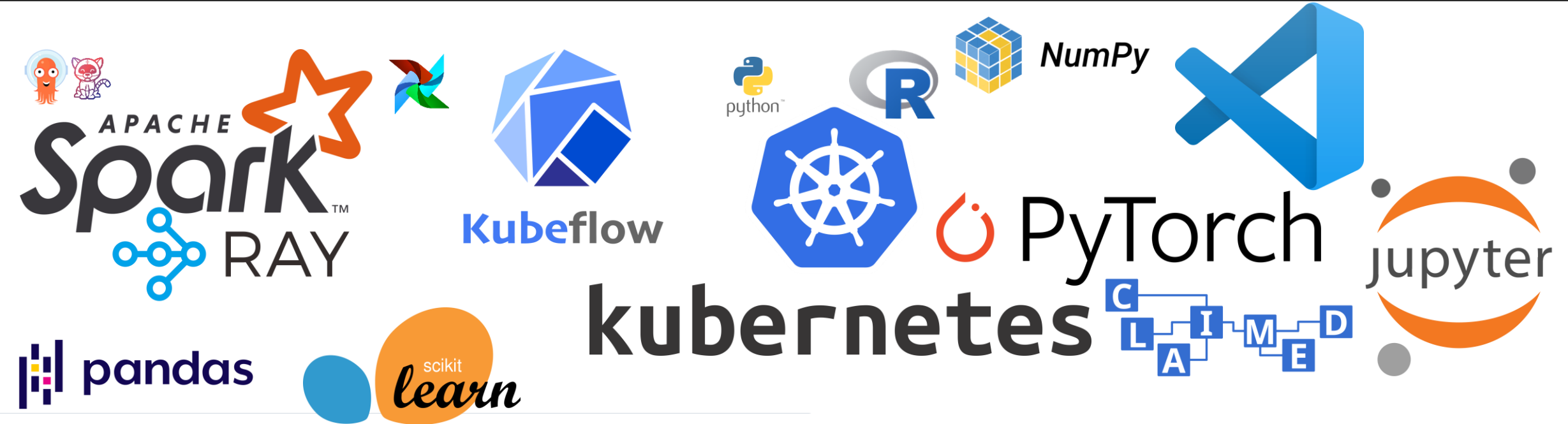
What problem are we trying to solve?

*Elyra-Pipelines are agnostic to IDE, Programming Language, Runtime
Just code, drag, drop, reuse, execute, test, deploy, scale, ...*

The screenshot displays the Elyra Pipelines IDE interface. On the left is a file explorer showing a directory structure for 'demo-covid-notebooks'. The main workspace contains a workflow diagram with nodes: 'etl_us_census...', 'Extract and Transform', 'etl_us_data.ip...', 'Clean', 'clean_us_data...', 'fit_us_data.ip...', 'analyze_fit_us...', 'demographics...', 'Model', 'Analyze', 'maps_us_data...', 'tables_us_data...', and 'timeseries_us...'. The 'fit_us_data.ip...' node is highlighted. On the right, the 'PIPELINE PROPERTIES' panel is open, showing configuration options for 'Label', 'Filename', 'Runtime Image' (set to 'COVID with Anaconda Python 3'), 'CPU', 'GPU', and 'RAM' resources, 'File Dependencies' (including 'util.py'), 'Include Subdirectories', 'Environment Variables', and 'Output Files' (listing 'outputs/us_counties_curves.csv', 'outputs/us_counties_curves_meta.json', and 'outputs/us_counties_curves_params.csv'). The bottom status bar indicates 'Saving completed' and 'us_data.pipeline'.

Where does it fit in the ecosystem?

*As Elyra creates pipelines to be executed on container orchestrating frameworks, any library and technology able to run in a container can become part of an Elyra pipeline. **Flyte, Kedro** and **Ludwig** could be integrated as pluggable runtime engine for Elyra Pipelines. **Kedro** looks most promising.*



Where does it fit in the ecosystem?

*Everything in Elyra is pluggable:
Runtimes, Component Libraries, Container Images, Code*

Requirement	KF	AF	Slurm	SM	Qsub	HTCondor	Reana
Kubernetes Support	X	X		X		X	X
GPU support	X	X	X	X	X	X	X
Component Library	X						
Reproducibility	X	X		X		X	X
Data Lineage	X						X

Requirement	Nifi	NodeRED	KNIME	Galaxy	Elyra
Kubernetes Support				X	X
GPU support				X	X
Component Library	X	X	X	X	X
Reproducibility	X		X	X	X
Data Lineage	X			X	X
Visual Editing	X	X	X	X	X
Jupyter Notebooks					X

Meet the team (10 core committers, 22 contributors)



Luciano Resende lresende



Alan Chin akchinSTC



Tom Markiewicz tmarkiewicz



rachaelhouse



Nick Bourdakos bourdakos1



Alex Bozarth ajbozarth



Luciano Resende lresende



Shreyas Arur dino0509



Martha Cryan marthacryan



Kevin Bates kevin-bates



Thi Nguyen duongnt



Kevin Doyle kjdoyle



LEUCIR leucir



Kiersten Stokes kiersten-stokes



Nick Bourdakos bourdakos1



Yvonne Li yil532



Patrick Titzler ptitzler



Karla Spuldaro karlaspuldaro



Romeo Kienzler romeokienzler



jen-rich



Mathew Wicks thesuperzapper



Fellipe Resende fresende



//va vabarbosa



Kiersten Stokes kiersten-stok



Gerard Casas Saez casassg



Kiran Pinnipati kpinnipa



aqtang



aivy dang



Jay Ahn jahn96



rasyab66



Neha Gokhale nmgokhale



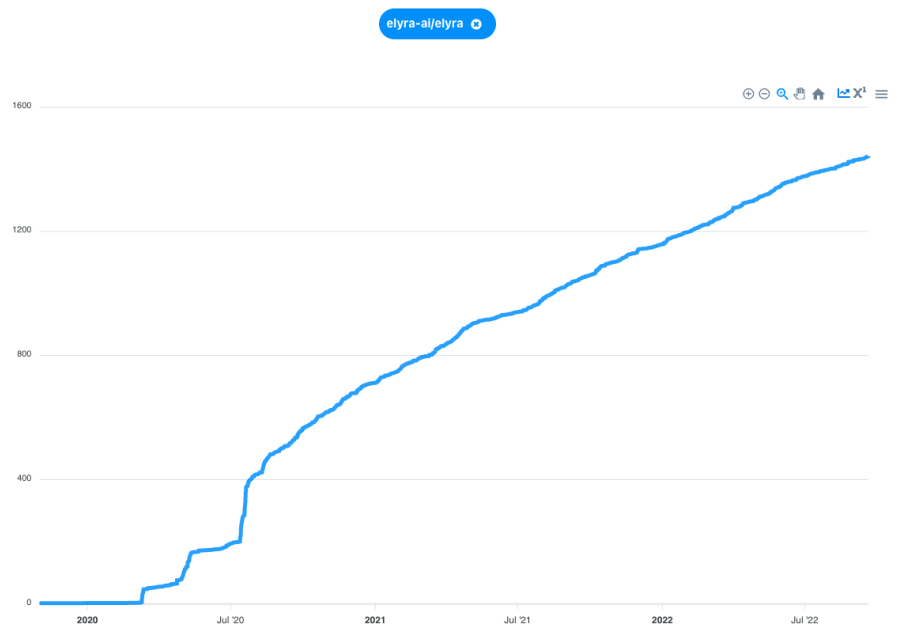
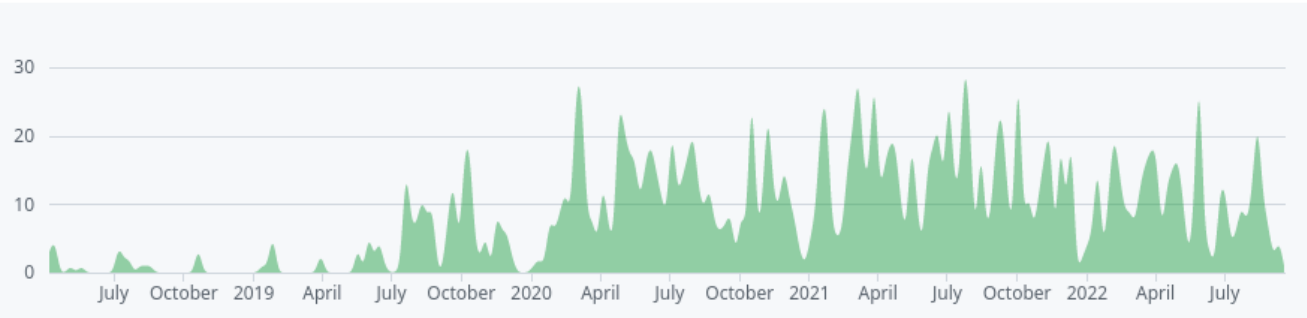
Zeus Courtois zeusorionIBM

Community Metrics

Apr 8, 2018 – Sep 20, 2022

Contributions: Commits ▾

Contributions to main, excluding merge commits and bot accounts



<p>Iresende #1 563 commits 72,782 ++ 51,133 --</p>	<p>akchinSTC #2 288 commits 54,975 ++ 31,993 --</p>
<p>ptitzler #3 229 commits 29,443 ++ 16,627 --</p>	<p>kevin-bates #4 172 commits 45,108 ++ 26,024 --</p>
<p>ajbozarth #5 161 commits 44,163 ++ 22,972 --</p>	<p>kiersten-stokes #6 157 commits 39,271 ++ 26,384 --</p>
<p>marthacryan #7 119 commits 25,745 ++ 16,802 --</p>	<p>karlaspuldaro #8 119 commits 21,598 ++ 10,688 --</p>

Why would we like to donate Elyra to LF?

IBM has a proven track record in open source with ~1000 open source core committers and ~5000 open source contributors. Elyra is part of different IBM products. Now community adoption starts. Therefore, Elyra needs a home for open governance. LF AI is the best fit.

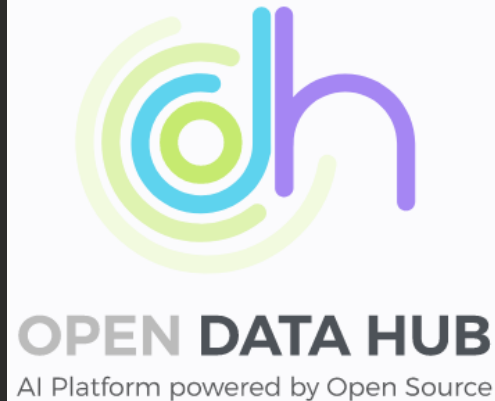
The image displays a comprehensive grid of open-source projects, categorized into several domains:

- Machine Learning:** Frameworks (Apache Spark, Microsoft Azure ML, TensorFlow, PyTorch, Keras, H2O, Databricks, IBM Watson Studio, etc.), Platforms (Angel, ForestFlow, Alibi, etc.), Libraries (Scikit-learn, XGBoost, LightGBM, etc.), and Tools (Catalyst, BeyondML, Intel OneAPI, etc.).
- Deep Learning:** Frameworks (PyTorch, TensorFlow, CNTK, etc.), Platforms (F0RM, etc.), Libraries (Catalyst, etc.), and Tools (BeyondML, Intel OneAPI, etc.).
- Reinforcement Learning:** Frameworks (OpenAI Gym, etc.), Platforms (F0RM, etc.), Libraries (Catalyst, etc.), and Tools (BeyondML, Intel OneAPI, etc.).
- Programming:** Languages and environments like Jupyter, R, Julia, MATLAB, etc.
- Data:** Education (OpenML, etc.), Lineage (OpenLineage, etc.), Relational DB (MySQL, PostgreSQL, etc.), Store & Format (Milvus, etc.), Versioning (DVC, etc.), Operations (Amundsen, DASH, etc.), Feature Engineering (FEAST, Featrr, etc.), Stream Processing (Kafka, etc.), SQL Engine (Presto, etc.), Visualization (Bokeh, etc.), Pipeline Management (Airflow, etc.), Labeling & Annotation (Labelbox, etc.), and Governance (EGERIA, etc.).
- Model:** Inference (ADLIX, etc.), Federated Learning (FATE, SUBSTRATA, etc.), Training (LUDWIG, etc.), Parameter (ONNX, etc.), Format & Interface (ADAMIX, etc.), Marketplace (Flyte, etc.), Workflow (Kedro, etc.), Benchmarking (FlagAI:IB, etc.), Tool (Amazon SageMaker, etc.), Explainability (AI Explainability 360, etc.), Adversarial (Adversarial Robustness, etc.), and Bias & Fairness (AI Fairness 360, etc.).
- Distributed Computing:** Computing & Management (EDL, SOAJS, etc.), Interface (Elyra, etc.), Security & Privacy (IBM HDB, etc.), Natural Language Processing (DELTA, etc.), and Notebook Environment (JupyterLab, etc.).

A central QR code and text block are also present, stating: "The LF AI & Data Landscape explores open source projects in Artificial Intelligence and Data and their respective domains. LF AI & DATA Landscape. lfaidata.foundation".

What is our impact to date?

Elyra is part of IBM Cloud Pak for Data, the IBM Research Accelerated Discovery Platform, RedHat Open Data Hub, is used by <https://www.americanas.com.br> as their central ETL tool, as exploration and rapid prototyping tool at <https://www.inventx.ch> and <https://www.finnova.com>, and as a tool for reproducible research at University Hospital Basel. Elyra is currently evaluated by CERN, MIT AI Labs and Deutsche Telekom AG.

The logo for finnova, featuring the word "finnova." in white lowercase letters on a dark blue rectangular background.The logo for ix.cloud, featuring "ix.cloud" in black text with "ix" in red, and "SWISS FINANCIAL CLOUD" in smaller black text below it.The logo for inventx, featuring a red square icon to the left of the word "inventx" in bold black lowercase letters, with "BANK ON IT" in red uppercase letters below it.The logo for Open Data Hub, featuring a stylized "oh" in blue and purple with green concentric circles to the left, and the text "OPEN DATA HUB" and "AI Platform powered by Open Source" below it.The logo for IBM Research, featuring the words "IBM" and "Research" in white, stacked vertically, with horizontal lines above and below the text.The logo for University Hospital Basel, featuring a stylized red and black icon to the left of the text "Universitätsspital Basel" in black.

What's coming next?

- Containerized local execution
- RJSF based dynamic component properties UI rendering
- UX improvements
- Additional runtimes support (Slurm, Snakemake, HTCondor, Reana, DASK)

Formal request

The Elyra authors hereby formally request the incubation of Elyra as a Sandbox Project in LF AI & Data

TAC Vote on Project Proposal: Elyra

Proposed Resolution:

The TAC approves the Elyra Project as an incubation project at the sandbox level of the LF AI Foundation

Upcoming TAC Meetings

 **DLF** AI & DATA

Upcoming TAC Meetings

- › October 6, 2022 – Open, requesting topics
- › October 20, 2022 – ONNX annual project review, Adlik annual project review

Please note we are always open to special topics as well.

If you have a topic idea or agenda item, please send agenda topic requests to tac-general@lists.lfaidata.foundation

Open Discussion

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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