

# Meeting of the Technical Advisory Council (TAC)

April 8, 2021

 **DLF** AI & DATA

# Anti-Trust Policy

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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](https://lfaidata.foundation)
- › Wiki: [wiki.lfaidata.foundation](https://wiki.lfaidata.foundation)
- › GitHub: [github.com/lfaidata](https://github.com/lfaidata)
- › Landscape: <https://landscape.lfaidata.foundation> or <https://l.lfaidata.foundation>
- › Mail Lists: <https://lists.lfaidata.foundation>
- › Slack: <https://slack.lfaidata.foundation>
- ›
- › 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](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 (5 mins)
- › Approval of Minutes from March 25 (5 mins)
- › Invited Presentation (25 minutes)
  - › JINA AI (Han Xiao)
- › LFAI General Updates (10 minutes)
- › Open Discussion (15 minutes)

# TAC Voting Members

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

Board Member	Contact Person	Email
AT&T	Anwar Atfab*	<a href="mailto:anwar@research.att.com">anwar@research.att.com</a>
Baidu	Ti Zhou	<a href="mailto:zhouti@baidu.com">zhouti@baidu.com</a>
Ericsson	Rani Yadav-Ranjan*	<a href="mailto:rani.yadav-ranjan@ericsson.com">rani.yadav-ranjan@ericsson.com</a>
Huawei	Huang Zhipeng*	<a href="mailto:huangzhipeng@huawei.com">huangzhipeng@huawei.com</a>
IBM	Susan Malaika	<a href="mailto:malaika@us.ibm.com">malaika@us.ibm.com</a>
Nokia	Jonne Soinenen	<a href="mailto:jonne.soininen@nokia.com">jonne.soininen@nokia.com</a>
SAS	Nancy Rausch	<a href="mailto:nancy.rausch@sas.com">nancy.rausch@sas.com</a>
Tech Mahindra	Nikunj Nirmal	<a href="mailto:nn006444@techmahindra.com">nn006444@techmahindra.com</a>
Tencent	Bruce Tao	<a href="mailto:brucetao@tencent.com">brucetao@tencent.com</a>
Zilliz	Jun Gu*	<a href="mailto:jun.gu@zilliz.com">jun.gu@zilliz.com</a>
ZTE	Wei Meng	<a href="mailto:meng.wei2@zte.com.cn">meng.wei2@zte.com.cn</a>
Graduate Project	Contact Person	Email
Acumos	Nat Subramanian	<a href="mailto:natarajan.subramanian@techmahindra.com">natarajan.subramanian@techmahindra.com</a>
Angel	Bruce Tao	<a href="mailto:brucetao@tencent.com">brucetao@tencent.com</a>
Egeria	Mandy Chessell	<a href="mailto:mandy_chessell@uk.ibm.com">mandy_chessell@uk.ibm.com</a>
Horovod	Travis Addair*	<a href="mailto:taddair@uber.com">taddair@uber.com</a>
ONNX	Jim Spohrer (Chair of TAC)	<a href="mailto:spohrer@us.ibm.com">spohrer@us.ibm.com</a>
Pyro	Fritz Obermeyer*	<a href="mailto:fritz.obermeyer@gmail.com">fritz.obermeyer@gmail.com</a>

# Approval of March 25th, 2021 Minutes

Draft minutes from the March 25<sup>h</sup> TAC call were previously distributed to the TAC members via the mailing list

## **Proposed Resolution:**

- › That the minutes of the March 25<sup>th</sup> meeting of the Technical Advisory Council of the LF AI & Data Foundation are hereby approved.

# Invited Presentation - JINA AI

Han Xiao <han.xiao@jina.ai>



# Invited Presentation: JINA AI

An easier way to build neural search on the cloud.

Jina is geared towards building search systems for any kind of data, including [text](#), [images](#), [audio](#), [video](#) and [many more](#). With the modular design & multi-layer abstraction, you can leverage the efficient patterns to build the system by parts, or chaining them into a [Flow](#) for an end-to-end experience.

Presenter: Han Xiao <[han.xiao@jina.ai](mailto:han.xiao@jina.ai)>

Resources:

Github: <https://github.com/jina-ai/jina>

Stars: 2686

Website: <https://jina.ai/>



# What is Neural Search?

Searching unstructured data using unstructured query

- Search image via image
- Search video via video
- Search audios via audio
- Search items via sketch
- Search PDF via image
- Search audio via image
- Search map via image



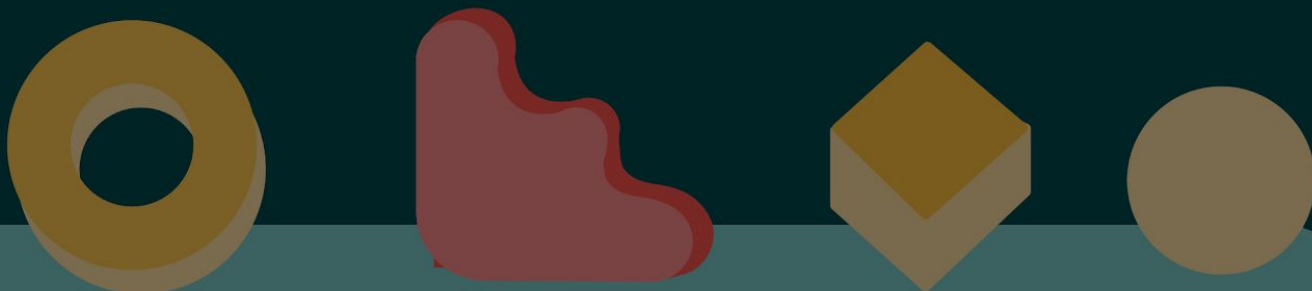
# What is Neural Search?

Searching unstructured data using unstructured query

- Search image via image
- Search video via video
- Search audios via audio
- Search items via sketch
- Search PDF via image
- Search audio via image
- Search map via image

Multi-modality Search

Cross-modality Search



# What is Neural Search?

Searching unstructured data using unstructured query

- Search image via image
- Search video via video
- Search audios via audio
- Search items via sketch
- Search PDF via image
- Search audio via image
- Search map via image

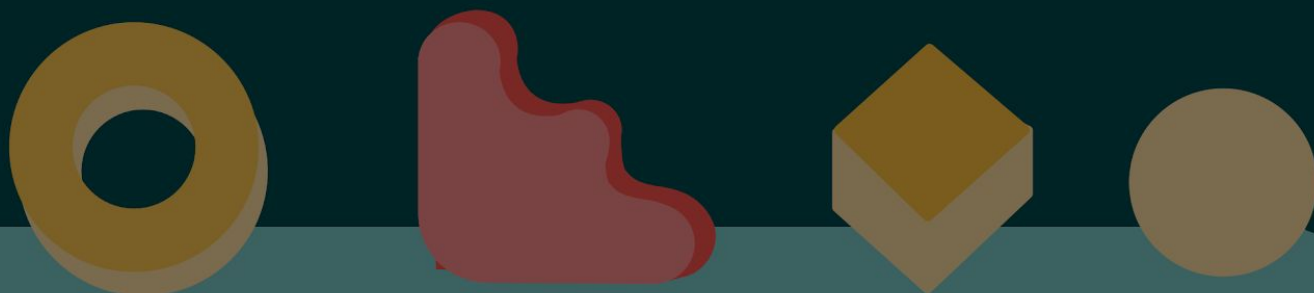
Multi-modality Search

Cross-modality Search

Deep Learning

Cloud-Native

OSS ecosystem



**Jina AI is**



**Tensorflow for search**



**A design pattern**



**The next Elastic**



**Unstructured data  
you owned**



**AI algorithms**

**Engineering  
toolkit/stacks**

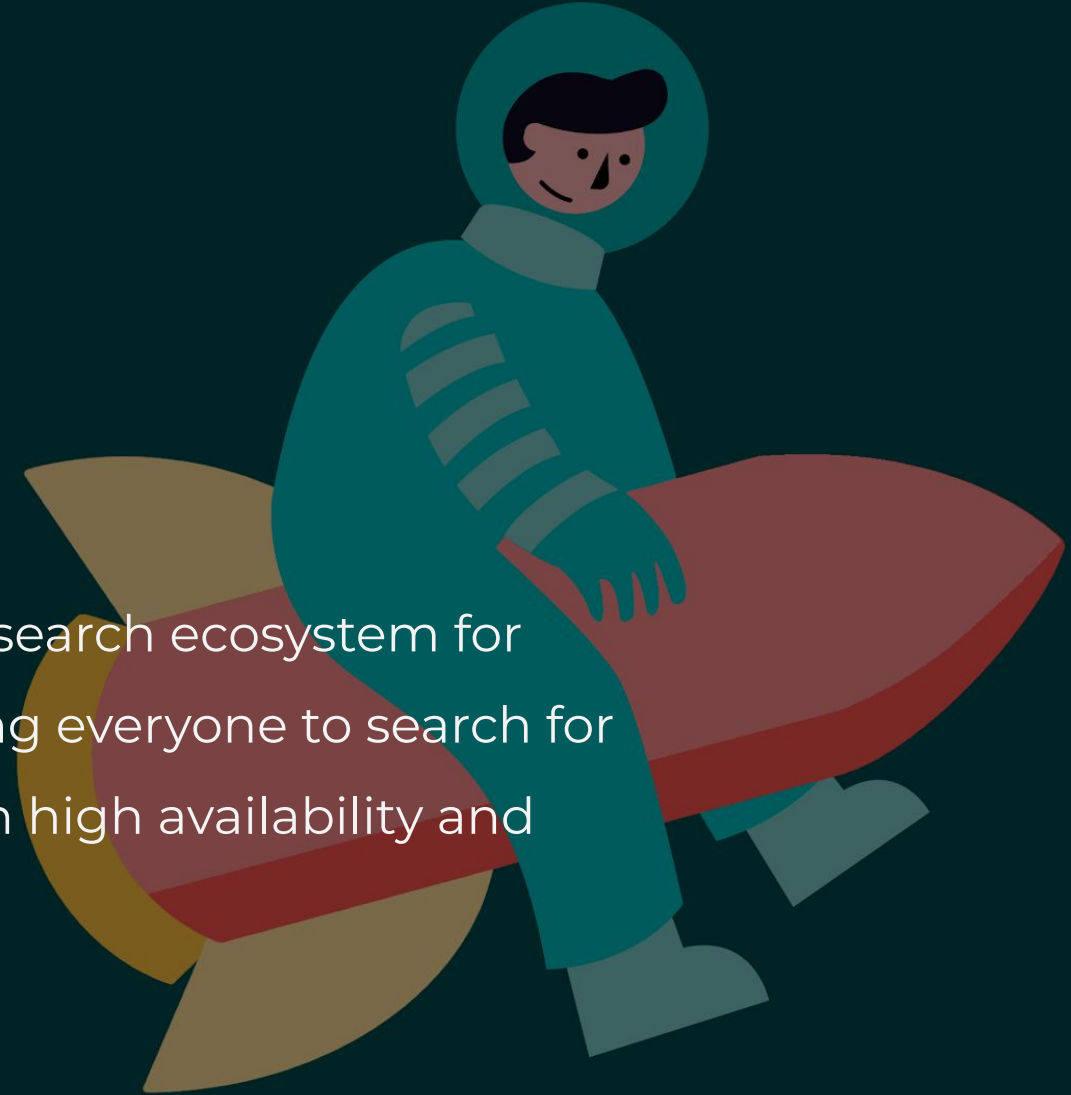


**Search AI in  
production**



# Our mission

We provide an **open-source** neural search ecosystem for **businesses and developers**, allowing everyone to search for information in **all kinds of data** with high availability and scalability.





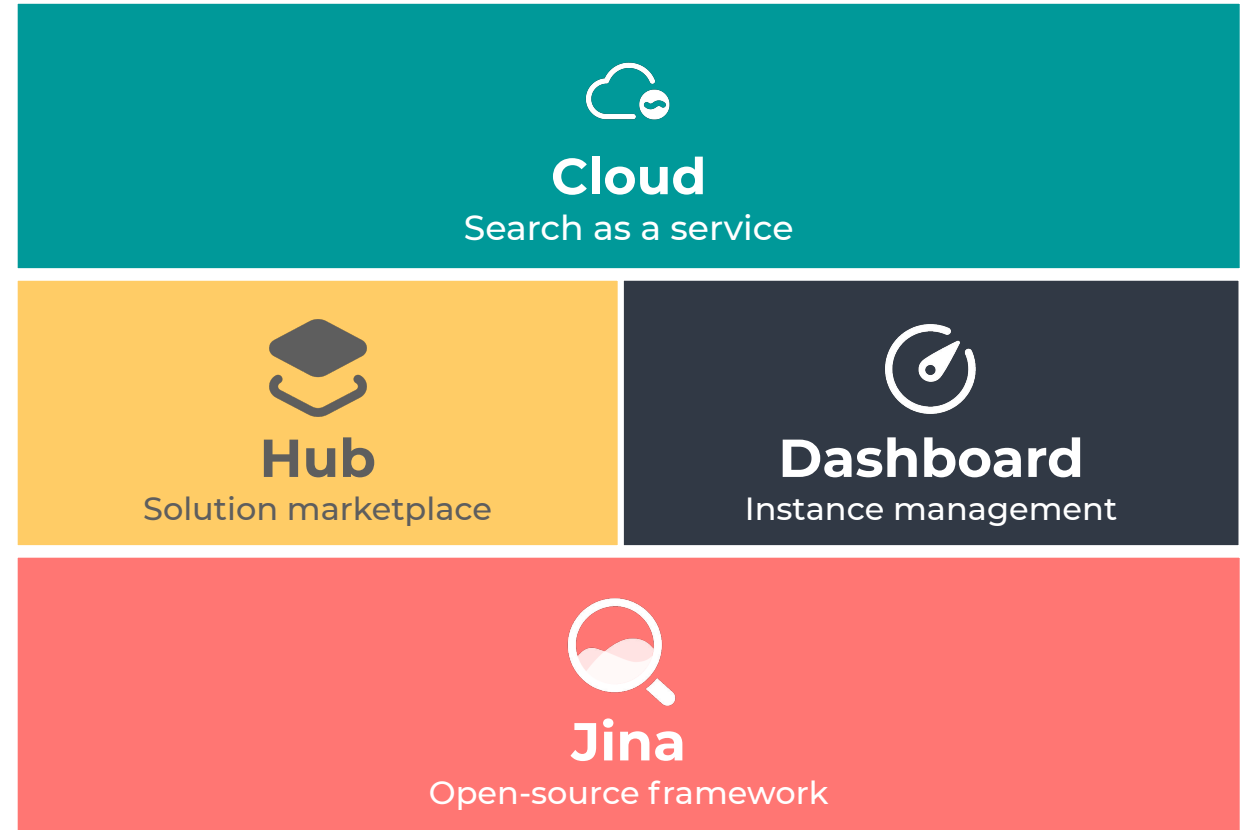
# Search AI Opensource Cross-border

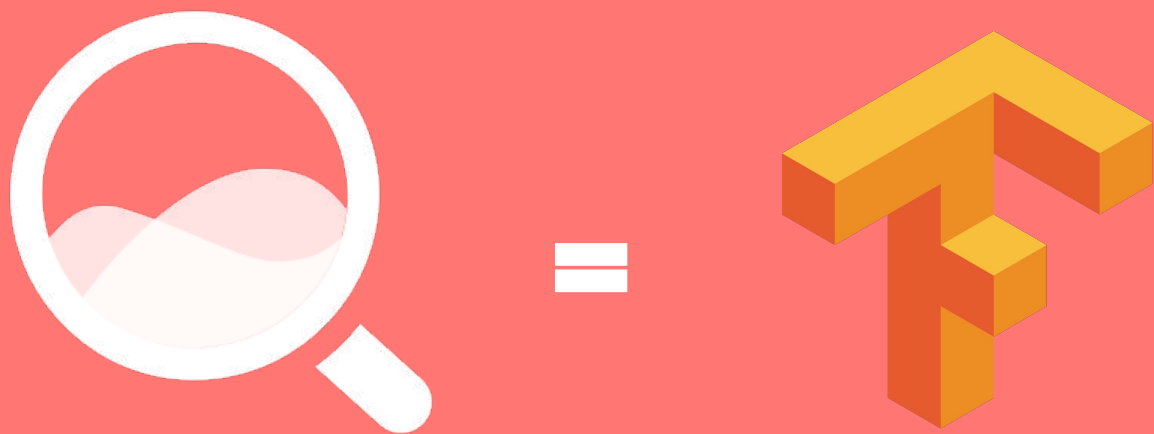
- 1 -

## **Products**

## Product Overview

# Jina AI Product Landscape





Jina is

“Tensorflow for Search”



**Universal** deep learning framework

The **design pattern** of deep learning



**Universal** neural search framework

The **design pattern** of neural search

Opensource as the core, ecosystem around it



Multi/Cross-Modality Search  
on **Unstructured Data**



**Cloud-Native**



**Search AI in Production**

Universal



Full-stack  
Ownership



Time-saver



Plug&Play



# Shop-the-look

# SHOP THE LOOK

Fashion director Shelly Vella's pick of the season's most exuberant prints

Trousers, £105, [sezano.com](http://sezano.com)

Carrings, £55, [essentiel-antwerp.com](http://essentiel-antwerp.com)

Dress, £389, [jcrew.com](http://jcrew.com)

Skirt, £46, [monsoon.co.uk](http://monsoon.co.uk)

For dress, sunglasses and jewellery details, see page 17

Dress, £37, Find, [amazon.co.uk](http://amazon.co.uk)

Purse, £8, [accessorize.co.uk](http://accessorize.co.uk)

Top, £25, [zara.com](http://zara.com)

Silk scarf, £105, [jane-carr.com](http://jane-carr.com)

Scarf, £20, [accessorize.co.uk](http://accessorize.co.uk)

APRIL 2020 YOU.CO.UK 21

## Current Solutions





## How to implement “Shop-the-look” in 5 min



```
from jina import Flow

f = Flow().add(uses='cnn-encoding.yml').add(uses='simple-index.yml')

with f:
    f.index(image_data)
```

## How to implement “Shop-the-look” in 5 min

*Use Docker image*



```
from jina import Flow
```

```
f = (Flow().add(uses='docker://preproc', host='123.45.678.9:8000')  
     .add(uses='cnn-encoding.yml', parallel=3)  
     .add(uses='simple-index.yml', shards=3))
```

```
with f:  
    f.index(image_data)
```

*Decentralized*

*Parallelization & Sharding*

# Saving human time

**jina**

### What just happened?

This is Jina's hello-world, end-to-end. It downloads Fashion-MNIST dataset and indexes 60,000 stored into multiple *shards*. We then randomly sample unseen images as *Queries*, ask Jina to retrieve where the left-most column is query image. Intrigued? Learn more about Jina and [checkout our Github!](#)

Precision@50: 63.16% Recall@50: 0.53%

Query Top-K Results

Shop the look, Ecommerce

LOC: ~150  
50L Python + 93L YAML

**Save >1000 hours**

COVID-19 SIMPLE QA  
POWERED BY JINA

Hi there, please ask me COVID-19 related questions. For example,

What is Covid-19?

Type message... **SEND**

Chatbot, QA, Customer service

LOC: ~50  
21L Python + 27L YAML

**Save >500 hours**

A multimodal document as query

Musician walking on the street with sousaphone

Results more rely on

Text 0.5  Image 0.5

**Search!**

Multimodal, Rich doc search

LOC: ~250  
9L Python + 237L YAML

**Save >1500 hours**

# Full stack developer experience on Neural Search

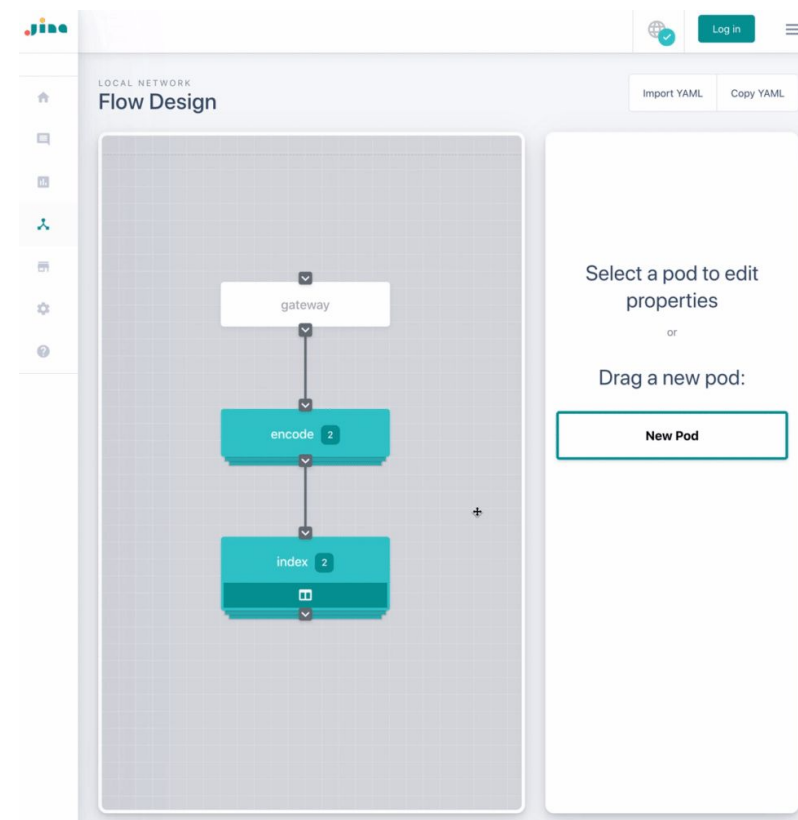
Full-stack env. Low-code env. No-code Env.

```
from jina import Flow

f = (Flow().add(uses='cnn-encode.yml')
     .add(uses='simple-index.yml'))

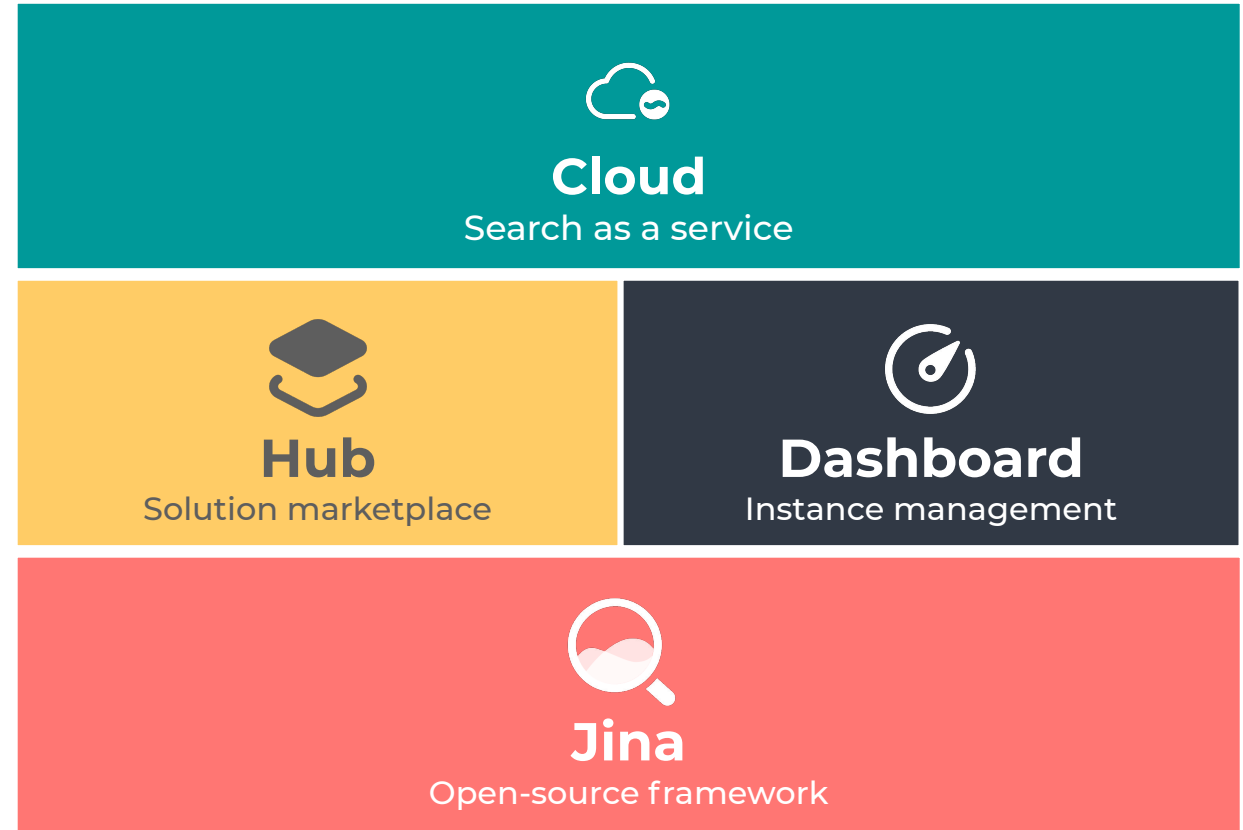
with f:
    f.index(image_data)
```

```
!Flow
version: '1.0'
pods:
  - uses: docker://preproc
    host: 123.45.6.789
  - uses: cnn-encoding.yml
    parallel: 3
  - uses: simple-index.yml
    parallel: 3
```



## Product Overview

# Jina AI Product Landscape



## Since 2020 May,



# LF AI & Data - General Updates

 LF AI & DATA

**Machine Learning**

Framework	Platform	Library
Accord.NET, FedAI, Microsoft LightGBM, MAHOUT, ML.NET, RAY	Angel (Graduated), ForestFlow (Incubating), H2O, KubeFlow, mflow, Project30, SELDOV, VIZUAL MARKET	Alibaba Alink, Apache Systems, Cariboot, mipack, openml, Ecarr, 將軍 (Ji Jiangun), Sonnet, Sagemaker, XGBoost, xLearn

**Deep Learning**

Framework	Platform	Library	Tool
Alibaba Chainer, CNTK, dyNet, Alibaba Euler, MindSpore, mxnet, MxNet, TensorFlow, Pythia, PyTorch, TensorFlow	DeepDetect, Determined AI, jina, OpenScale, Polyaxon, TensorFlow, TensorFlow Extended	BigDL, Catalyst, DL4J, Keras, PyTorch, PyTorch Lightning	BoTorch, Intel Distiller, PloomML, Intel OpenVINO, PyTorch

**Reinforcement Learning**

Reinforcement Learning
OpenAI Gym, Coach, DeepMind Lab, Dopamine, Horizon, OpenAI, Google PaaS, Google SEED RL, Stable Baselines

**Programming**

Programming
Pyro (Graduated), Julia, MARS, NumPy, NYOKA, PyMC3, SciPy, Stan

**Notebook Environment**

Apache Databricks, BeakerX, Colab, Elyra, IPython, Jupyter, IBM, PolyNote, Streamlit
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**Data**

Store & Format	Versioning
JanusGraph (Incubating), Milvus (Incubating), ARROW, DELTA LAKE, druid, hudi, Parquet, pilosa, VEARCH, vespa	DVC, DVC, DVC, DVC, DVC

**Operations**

Operations	Feature Engineering
Amundsen (Incubating), dataShim (Incubating), MARQUEZ (Incubating), FEAST (Incubating), Hive, Clik, DataHub, IBM, WH Labs whylogs, tsfresh	FEAST (Incubating), tsfresh

**Stream Processing**

Stream Processing
NNStreamer (Incubating), Flink, kafka, Pulsar, samza, Uber, Beam, Brooklin, Prefect

**SQL Engine**

SQL Engine
Apache Drill, HAWQ, Presto, SQLFlow

**Visualization**

Visualization
Bokeh, IBM, Uber deck.gl, Ecco, Google Facets, Grafana, RCloud, NYU, OO Supernet, Google

**Labeling & Annotation**

Labeling & Annotation
Label Studio, Labelbox, Labelimg, HITACHI, Microsoft VIT

**Model**

Inference	Benchmarking
ADLIX (Incubating), KFerving, MNN, NVIDIA, uTensor	DAVINCI, MLPerf

**Parameter**

Parameter	Format & Interface
ONNX (Graduated), ONNX	ONNX (Graduated), ONNX

**Marketplace**

Marketplace	Workflow
Acumos (Graduated), IBM	Flyte (Incubating), Airflow, nifi, argo, Arkaban, Cadence, Couler, Databolt, Spotify, mlmap, Prefect, TRAINS

**Tool**

Tool
Qualcomm AIMEE, Facebook dlm, Microsoft Azure, AWS MMS, Amazon Neo-AI, Netron, PipelineAI, studio.ml, Google, AWS TorchServe, Turi

**Explainability**

Explainability
AI Explainability 360 (Incubating), Microsoft, University of Washington Lime, Google Lucid, SHAP, SKATER, Bolt, TreanInterpreter

**Adversarial**

Adversarial
Adversarial Robustness Toolbox (Incubating), AdvBox, Cover Torch

**Bias & Fairness**

Bias & Fairness
AI Fairness 360 (Incubating), Aquitas, Audit AI, Fairlearn

**Distributed Computing**

Computing & Management	Interface
EDL (Incubating), SOAJS (Incubating), Bahir, Mesos, Apache Spark, Apache Storm, GNS, Netflix genie, Kubernetes, Nauta, Singularity	Sparklyr (Incubating), Apache Toree, LUVY

**Security & Privacy**

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

[l.faidata.foundation](https://l.faidata.foundation)

**AI & DATA Landscape**

**LF AI & DATA**

**Security & Privacy**

Google Privacy, HELib, Microsoft SEAL, SUBSTR, Google TensorFlow Privacy, TensorFlow
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**Natural Language Processing**









Natural Language Processing
DELTA (Incubating), RosaeNLG Sandbox, Google ALBERT, Allen NLP, Google Bert, fastText, flair, LUON, Kashgari, Facebook LAGER, Mozilla DeepSpeech, Intel NLP Architect, INLP, ParAI, Facebook Pytorch, RASA, spaCy, Transformers, Facebook XLNet, YouTokenToMe










**Education**

Education
DATA PRACTICES.ORG (Incubating), OpenDS4All (Incubating)



Machine Learning	Framework	Platform	Library	Framework	Platform	Library	Tool	Reinforcement Learning	Programming
		 Graduated  Incubating							 Graduated

Notebook Environment	Store & Format	Versioning	Operations	Feature Engineering	Stream Processing	SQL Engine	Visualization	Pipeline Management	Labeling & Annotation	Governance
		 Incubating  Incubating		 Incubating  Incubating  Incubating  Incubating	 Incubating					 Graduated

Model	Inference	Benchmarking	Training	Parameter	Format & Interface	Marketplace	Workflow	Tool	Explainability	Adversarial	Bias & Fairness
	 Incubating		 Graduated  Incubating		 Graduated	 Graduated	 Incubating		 Incubating	 Incubating	 Incubating

Distributed Computing	Computing & Management	Interface	Security & Privacy				Natural Language Processing	Education
	 Incubating  Incubating	 Incubating	 <p>The LF AI &amp; Data landscape explores open source projects in Artificial Intelligence and Data and their respective domains.</p> 				 Incubating  Sandbox	 Incubating  Incubating

# Suggested Additions

## Project Key

**Yellow** = not in [Landscape](#), maybe should be added

## Programming

[Numpy](#)  
[Numba](#)  
[SciPy](#)  
[Dask](#)  
[Julia](#) (\*)  
[Python](#)  
[Rstudio](#)

## Notebooks

[Flyra](#)  
[I-python](#)  
[Jupyter Notebooks](#)  
[PixieDust](#)  
[Rmarkdown](#)

## Security & Privacy

[HE-Lib](#) (\*)  
[TensorFlow Privacy](#)  
[TF-Encrypted](#)

## Distributed Computing

*Management*  
[OpenShift](#)  
[Kubernetes](#)  
[Mesos](#)  
[Ranger](#)  
[Storm](#)

*Interface*  
[Sparklyr](#)  
[Toree](#)  
[Livy](#)  
[Spark-NLP](#)

## Data

*Versioning*  
[Pachyderm](#) (\*)

*Store & Format*  
[Alluxio](#)  
[Arrow](#)  
[Avro](#)  
[Delta Lake](#) (\*)

*Druid*  
[JanusGraph](#)  
[Parquet](#)  
[Ceph](#)

*Stream Processing*

[Flink](#)  
[Kafka](#)  
[Logstash](#) (\*)  
[FluentD](#) (\*)

*Relational DB*

[Postgres](#)  
[MySQL](#)  
[CouchDB](#)

*SQL Engine*  
[Presto](#) (\*)

*Visualization*

[Bokeh](#)  
[D3](#)  
[Plotly](#)  
[Facets](#)  
[Grafana](#)  
[Seaborn](#)  
[Superset](#) (\*)  
[TensorBoard](#)  
[Prometheus](#)

## Data

*Governance*  
[Egeria](#)  
[CLDA](#)

*Feature Engineering*  
[Tsfresh](#)

*Operations*  
[FEAST](#) (\*)  
[Amundsen](#) (\*)  
[Hive](#) (\*)  
[Snorkel](#) (\*)

*Pipeline Management*  
[Beam](#)

*Labeling & Annotation*  
[Vott](#) (\*)

*Exploration*  
[Hue](#)  
[Kibana](#)

## Machine Learning

*Framework*  
[LightGBM](#)  
[Mahout](#)  
[Ray](#) (\*)

*Platform*  
[Kubeflow](#)  
[H2O](#)  
[SystemML](#)  
[Mlflow](#) (\*)  
[Seldon](#) (\*)  
[Marvin-AI](#) (\*)

*Library*  
[Scikit-learn](#)  
[XGBoost](#)  
[cat-boost](#)  
[SparkML](#)

## Deep Learning

*Framework*  
[TensorFlow](#)  
[PyTorch](#)  
[MX-Net](#)

*Library*  
[Keras](#)

## Reinforcement Learning

[DeepMind Lab](#) (\*)  
[OpenAI Gym](#) (\*)

## Model

*Inference*  
[TensorRT](#)  
[TensorRT Inference](#)

*Benchmarking*  
[MLPerf](#)

*Training*  
[Horovod](#) (\*)

*Parameter*  
[HyperOpt](#)  
[Katib](#)

*Format & Interface*  
[ONNX](#)

*Marketplace*  
[MAX](#) (\*)

*Workflow*  
[Kubeflow Pipelines](#)  
[Tekton](#)

[Airflow](#) (\*)  
[Nifi](#) (\*)  
[Argp](#) (\*)  
[Mleap](#) (\*)  
[Volcano](#) (\*)

*Tool*  
[KFServing](#)  
[ONNX Runtime](#)  
[TorchServe](#) (\*)  
[Clipper](#) (\*)  
[MMS](#) (\*)

## Trusted AI

*Explainability*  
[AI Explainability 360](#)  
[Alibi](#) (\*)  
[LIME](#)  
[SHAP](#)

*Bias & Fairness*  
[AI Fairness 360](#)

*Adversarial Attacks*  
[Adversarial Robustness Toolbox](#)

## Natural Language Processing

[UIMA](#)  
[BERT](#)  
[Core NLP](#)  
[Lucene](#)  
[PyText](#)  
[Spacy](#)  
[Transformers](#) (\*)

**Education**  
[OpenDS4All](#)

## 2020 TAC Meetings Summary

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

(Entity)\* = incubating vote

**\*\* bold = graduate vote**

*Italics = invited project presentation*

## 2021 TAC Meetings Pipeline Summary

Jan Feb Mar	14: <b>Datashim(IBM)*</b> 28: <b>Project Lifecycle Stages</b> vote Invited talks Sedna & CIM	11: Invited talks Egeria CI & Mentorships 25: Flyte (Lyft) *	11: <i>RosaeNLG () Sandbox Proposal</i> Invited talk Elyra-AI (IBM) 25: <i>Substra Framework (Substra)*</i>
Apr May Jun	8: Invited talk JINAAI 22: TBD	6: Egeria & OpenDS4All - project update 20: TBD - Project updates	3: TBD - Project updates 17: TBD - Project updates
Jul Aug Sep	8: TBD - Project updates 22: TBD - Project updates	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) ?: Melody (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





















# Projects (28)

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


## Graduated LF AI & Data Projects (6)

 <b>Acumos</b> ★ 15 LF AI & Data Foundation	 <b>Angel</b> ★ 6,149 Angel-ML LF AI & Data Foundation	 <b>Egeria</b> ★ 326 LF AI & Data Foundation	 <b>Horovod</b> ★ 10,913 LF AI & Data Foundation	 <b>ONNX</b> ★ 9,871 LF AI & Data Foundation	 <b>Pyro</b> ★ 6,784 LF AI & Data Foundation
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## Incubating LF AI & Data Projects (20)

 <b>ADLIK</b> ★ 237 Adlik LF AI & Data Foundation	 <b>Adversarial Robustness Toolkit</b> ★ 2,054 LF AI & Data Foundation	 <b>AI Explainability 360 Toolkit</b> ★ 782 LF AI & Data Foundation	 <b>AI Fairness 360 Toolkit</b> ★ 1,246 LF AI & Data Foundation	 <b>Amundsen</b> ★ 1,864 LF AI & Data Foundation	 <b>DataPractices</b> ★ 10 LF AI & Data Foundation	 <b>Datashim</b> ★ 79 LF AI & Data Foundation	 <b>DELTA</b> ★ 1,394 LF AI & Data Foundation	 <b>Elastic Deep Learning (EDL)</b> ★ 125 LF AI & Data Foundation	 <b>Feast</b> ★ 1,539 LF AI & Data Foundation
 <b>Flyte</b> ★ 1,217 LF AI & Data Foundation	 <b>ForestFlow</b> ★ 43 LF AI & Data Foundation	 <b>JanusGraph</b> ★ 3,869 LF AI & Data Foundation	 <b>Ludwig</b> ★ 7,587 LF AI & Data Foundation	 <b>Marquez</b> ★ 518 LF AI & Data Foundation	 <b>Milvus</b> ★ 5,259 LF AI & Data Foundation	 <b>NNStreamer</b> ★ 325 LF AI & Data Foundation	 <b>OpenDS4All</b> ★ 238 LF AI & Data Foundation	 <b>SOAJS</b> ★ 43 LF AI & Data Foundation	 <b>sparklyr</b> ★ 775 LF AI & Data Foundation

## Sandbox LF AI & Data Projects (1)

 <b>RosaeNLG</b> ★ 12 LF AI & Data Foundation
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\* 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.

→ Track incoming proposals via: <https://github.com/lfai/proposing-projects>

# Active and growing developer community

Cumm. Jan 1- Dec 31, 2020 vs. Jan 1, 2020 to Apr 2, 2021

**8.92K**

Contributors

+7.25%

**34.65K**

PRs/Changesets

+7.21%

**100.03K**

Commits

+11.03%

**22.54K**

Total issues

+5.19%

**358**

Repositories

+3.07%

**2.08K**

Slack messages

+68.75%

**9.61K**

Contributors

**37.15K**

PRs/Changesets

**111.07K**

Commits

**23.71K**

Total issues

**369**

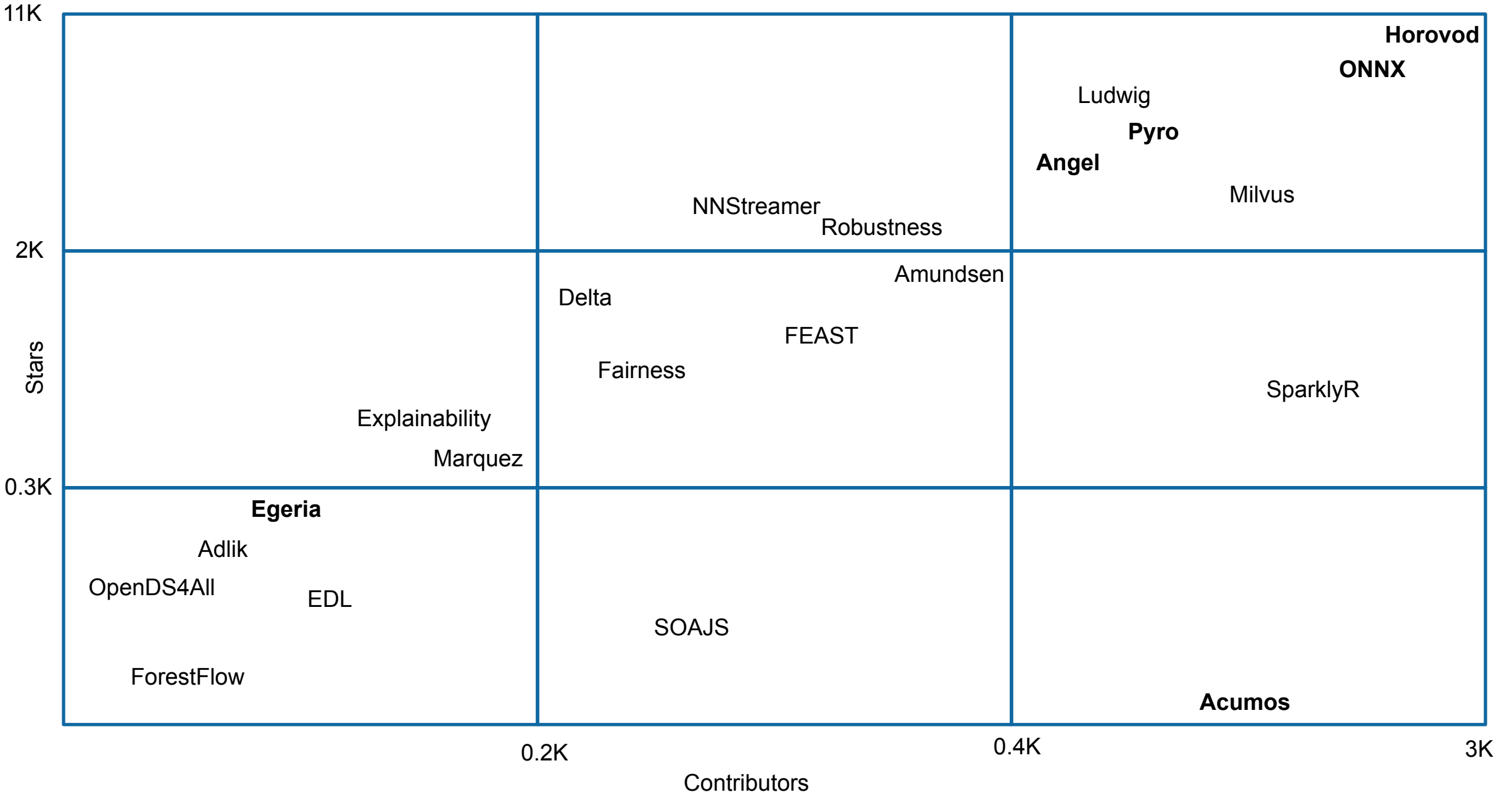
Repositories

**3.51K**

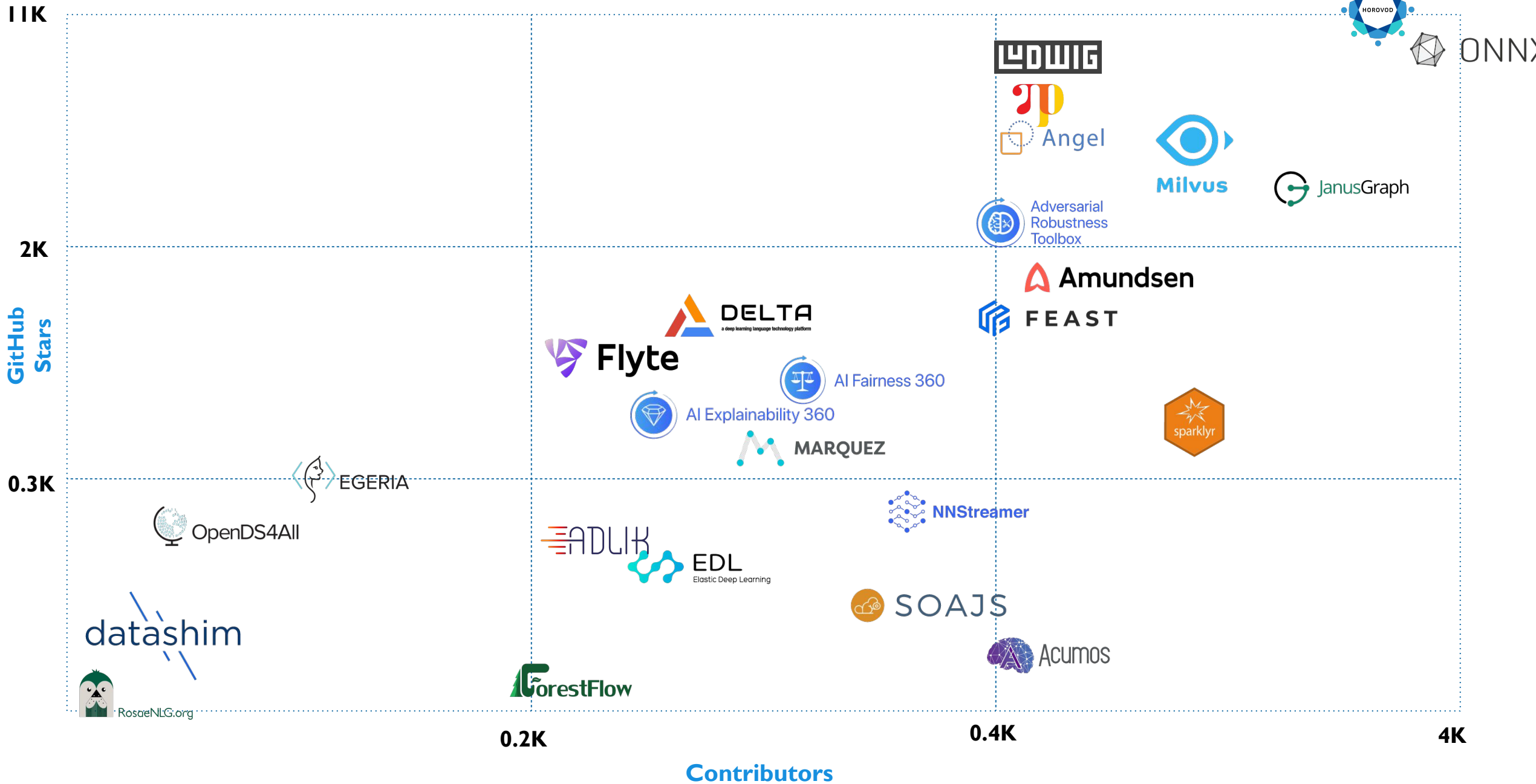
Slack messages



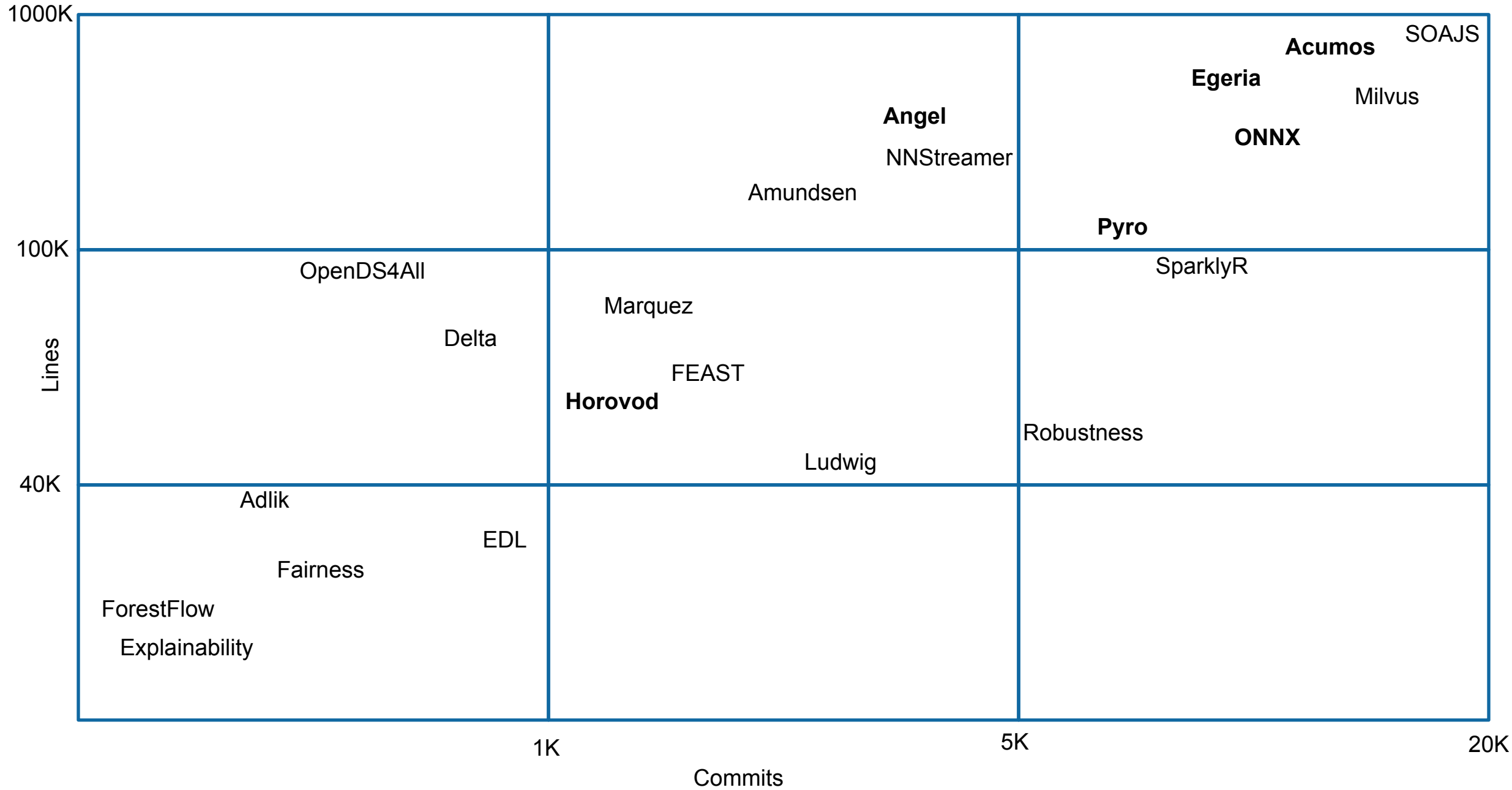
Data from November 23, 2020 – Stars and Contributors



# Data Coverage (Mar 19, 2021) - Stars and Contributors



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



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



# 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)

# 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](mailto:pr@lfai.foundation) to coordinate in advance (min 2 wks) of your expected release date.

# 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.

# Updates from Outreach Committee



# 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](mailto:info@lfaidata.foundation)
  
- › Please consider holding virtual events

To discuss participation, please email [events@lfaidata.foundation](mailto:events@lfaidata.foundation)

# Upcoming Events

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

- **LF Energy Spring Summit (virtual) - April 14th - [Event Website](#)**
  - a. **Booth, Keynote by Ibrahim Haddad, LF AI & Data Executive Director**
- **Kubernetes AI Day (virtual) - May 4th - [Event Website](#)**
  - a. **Booth**
- **OSS Global (hybrid) Sept 29 - Oct 1 - [Event Website](#)**
  - a. **Mini-Summit, Booth, Track**

# 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](mailto:pr@lfaidata.foundation)

# Call to Participate in Ongoing Efforts

 **OLF** 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>

# 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

# 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>

# Upcoming TAC Meetings



# Upcoming TAC Meetings (Tentative)

- › April 22: TBD (WhyLogs?)
- › May 6: Egeria and ODPI - Project updates
- › May 20: TBD - Project updates
- › Jun 3: TBD - Project updates
- › June 17: TBD - Project updates
- › July 8: TBD - Project updates
- › July 22: TBD - Project updates
- › Aug 5: TBD - Project updates
- › Aug 19: TBD - Project updates

›  
Please send agenda topic requests to  
[tac-general@lists.lfai.foundation](mailto:tac-general@lists.lfai.foundation)

# 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>

# Open Discussion

# 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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