Linux Foundation AI & Data Landscape

1.0

See the interactive landscape at l.lfaidata.foundation

Greyed logos are not open source

Machine Learning

Framework

Accord.NET, Microsoft LightGBM, MAHOUT, ML.NET, RAY, ZenML

Platform

Graduated: Angel

Incubating: ForestFlow, Alibaba Alink, Apache SystemML, Ax, cortex, H2O, Kubeflow, METAFLOW, mlflow, Prediction.IO, SELDON, VOWPAL WABBIT

Library

Sandbox: iML

AutoGluon, CatBoost, Flashlight, MediaPipe, mlpack, scikit-learn, OpenCV, openmmlab, PyCaret, scikit-learn, 将军 Shogun, Sonnet, Salesforce TransmogrifAI, dmlc XGBoost, xLearn

Deep Learning

Framework

SINGA, Chainer, Microsoft CNTK, dy/net, Alibaba euler, [M]S MindSpore, mxnet, ncnn, 飞桨 PaddlePaddle, Pythia, PYTORCH, TensorFlow

Platform

Incubating: TonY

DeepDetect, Determined AI, jina, Onepanel, Polyaxon, 阿里巴巴 Alibaba.com X-DeepLearning

Library

BigDL, Catalyst, DL4J, fast.ai, Keras, Neural Network Libraries, PyTorch Ignite, PyTorch Lightning, PyTorchVideo

Tool

Sandbox: BeyondML

BoTorch, Intel Distiller, plaidML, PyTorch BigGraph, PyTorch geometric, tvm

Reinforcement Learning

Reinforcement Learning

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

Programming

Programming

Graduated: Pyro

Incubating: Kompute

DASK, Infer.NET, julia, MARS, Numba, NumPy, ÑYOKA, pemegranate, PyMC3, python, R, SciPy, SKIP, Stan

Data

Education

Incubating: DATAPRACTICES.ORG, OpenDS4All

Lineage

Sandbox: OpenBytes, Open Dataology, OpenLineage

Relational DB

CouchDB, MySQL, KV

Store & Format

Graduated: Milvus

Incubating: JanusGraph

Sandbox: docarray

ALLUXIO, ICEBERG, orc, ARESDB, ARROW, ceph, DELTA LAKE, druid, hudi, HugeGraph, influxdb, pandas, Parquet, pilosa, VEARCH, vespa, Vineyard

Versioning

dotscience, DVC, Quilt

Operations

Incubating: Amundsen, datashim, MARQUEZ, HIVE, ckan, Data Hub, great_expectations, snorkel, WHYLABS whylogs

Feature Engineering

Incubating: FEAST

Sandbox: feathr

Featuretools, OpenMLDB, tsfresh

Stream Processing

Incubating: NNStreamer

RocketMQ, beam, brooklin, Flink, fluentd, kafka, logstash, Pravega, PREFECT, PULSAR, samza, Uber uReplicator

SQL Engine

APACHE DRILL, HAWQ, presto, SQLFlow, trino

Visualization

bokeh, IBM Carbon Design System, D3, plotly Dash, Uber deck.gl, Ecco, Google Facets, Grafana, Metabase, Prometheus, RCloud, re:dash, NYU seaborn, Superset, Google TensorBoard

Pipeline Management

Sandbox: Artigraph

Intel Analytics Zoo, MODELDB, DAGSTER, PiFlow, TEKTON, TPOT

Labeling & Annotation

Intel CVAT, Doccano, Label Studio, Labelbox, LabelImg, HITACHI Inspire the Next, Microsoft VoTT

Governance

Graduated: EGERIA

COMMUNITY DATA LICENSE AGREEMENT

Model

Inference

Incubating: ADLIK, KServe

Caussa ML, MNN, NVIDIA TensorRT, NVIDIA Tensor RT Inference Server, uTensor

Federated Learning

Incubating: FATE, SUBSTRA

intel OpenFL, PySyft, TensorFlow Federated

Training

Graduated: MORPHEUS

Incubating: LUDWIG

Microsoft Embedded Learning Library, Petastorm, TorchRec

Parameter

HYPEROPT, Katib, talos

Format & Interface

Graduated: ONNX

Uber Neuropod

Marketplace

Sandbox: Machine Learning eXchange

Archived: Acumos

IBM Model Asset eXchange (MAX)

Workflow

Graduated: Flyte

Incubating: Kedro, Airflow, nifi, argo, Azkaban, BENTOML, Cadence, Couler, CYCLONE, DataBolt dtlflow, kestra, Spotify luigi, mleap, Orchest, PREFECT, TRAINS, VOLCANO

Benchmarking

DAWNBench, MLPerf

Tool

Sandbox: FlagAI 飞智

Qualcomm AIMET, FACEBOOK dlrm, FLAML, Microsoft MSRAI, aws MMS, MDB, amazon Neo-AI, NETRON, ONNX RUNTIME, PipelineAI, studio.ml, Google TensorFlow Model Analysis, aws TorchServe, turi

Trusted & Responsible AI

Explainability

Incubating: AI Explainability 360

ALIBI, Microsoft InterpretML, UNIVERSITY of WASHINGTON Lime, Google Lucid, SHAP, SKATER, Bolt TreeInterpreter

Adversarial

Graduated: Adversarial Robustness Toolbox

AdvBox, advertorch, cleverhans, UNIVERSITY of TORONTO Foolbox

Bias & Fairness

Incubating: AI Fairness 360

Aequitas, Audit AI, Stanford University DeepMT, Fairlearn

Distributed Computing

Computing & Management

Incubating: EDL Elastic Deep Learning

SOAJS

Apache Ambari, Bahir, MESOS, Apache Ranger, Apache Spark, STORM, GNES, NETFLIX genie, GraphScope, kubernetes, intel Nauta, OPENSHIFT, Singularity

Interface

Incubating: sparklyr

APACHE TOREE, LIVY

Security & Privacy

Security & Privacy

Google Differential Privacy, IBM HElib, Microsoft SEAL, Google TensorFlow Privacy, TFEncrypted

Natural Language Processing

Natural Language Processing

Incubating: DELTA

Sandbox: RosaeNLG

Google ALBERT, AllenNLP, Google Bert, CoreNLP, mozilla DeepSpeech, fastText, flair, LUON, Kashgari, FACEBOOK LASER, Uncharted, cisco MindMeld, intel NLP Architect, NLP, ParlAI, FACEBOOK PyText, RASA, spaCy, John Snow Labs NLU, Transformers, FACEBOOK XLM, YouTokenToMe

Notebook Environment

Notebook Environment

Sandbox: Elyra

Apache Zeppelin, BeakerX, colab, IPython, jupyter, IBM, Polynote, marimo, Stencila, Streamlit

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

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LF AI & DATA Landscape

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