

Machine Learning

Framework	Platform	Library
Accord.NET, Microsoft Azure ML, Hugging Face CANDLE, Microsoft LightGBM, MAHOOT, ML.NET, RAY, ZenML	Angel (Graduated), ForestFlow (Incubating), Open Platform for Enterprise AI (Sandbox), Ax, cortex, H2O, KubeFlow, METAFLOW, mlflow, PredictionIO, SELDOM, VONPAL HARVEST	1ML (Sandbox), DeepCausality (Sandbox), IREE (Sandbox), Recommenders (Sandbox), Sapient ML (Sandbox), AutoGluon, CatBoost, Flashlight, MediaPipe, mlpack, OpenCV, openim, FCARET, Legato, 將軍 Shogun, Sonnet, Salesforce Transmogrid, dmlc XGBoost, xLearn

Deep Learning

Framework	Platform	Library	Tool
DeepRec (Sandbox), RYOMA (Sandbox), ShaderNN (Sandbox)	TONY (Incubating)	BigDL, Catalyst, DL4J, fast.ai, Keras, PyTorch Ignite, PyTorch Lightning, PyTorchVideo	BeyondML (Sandbox), BoTorch, intel Distiller, pldML, PyTorch Lightning

Programming

Programming	Reinforcement Learning
Pyro (Graduated), Kompute (Incubating), DASK, IntelNET, Julia, MARS, Numba, NumPy, NYOKA, primegrate, PyMC3, python, R, SciPy, SKIP, Stan	CleanRL, Coach, DeepMindLab, Dopamine, Horizon, OpenAI, Google Planet, Google SEED RL, State Baselines

Data

Education	Lineage	Relational DB	Store & Format	Versioning	Operations	Feature Engineering	Stream Processing	SQL Engine	Visualization	Pipeline Management	Labeling & Annotation	Governance
DATA PRACTICES.ORG (Incubating), OpenDS4All (Incubating)	OpenLineage (Graduated), OpenBytes (Sandbox), Open Dataology (Sandbox)	CouchDB, MySQL, KV	docarray (Graduated), Milvus (Graduated), DELTA LAKE (Incubating), JanusGraph (Incubating), LakeSoul (Sandbox), ALLUXIO, ICEBERG, ORC, ARESDB, ARROW, XERES, CEPH, Dragonfly, druid, hudi, HugeGraph, influxdb, pandas, Parquet, pilosa, StarRocks, Valid, VEARCH, vespa, Vineyard	datascience connect, DVC, datashim (Incubating), quit	MARQUEZ (Graduated), Amundsen (Incubating), datashim (Incubating), Mathesar, snarl, WHYLABS whylogs	FEAST (Incubating), feathr (Sandbox), Featuretools, ML OpenLDB, tsfresh	NNStreamer (Incubating), RocketMQ, beam, brooklin, Flink, fluentd, kafka, logstash, Pravega, PREFECT, PULSAR, samza, Uber uReplicator	ARACHNID, HAWQ, presto, SQLFlow, trino, bkeh, plotly Dash, Uber deck-gi, Ecco, Google Facets, Grafana, Metabase, Prometheus, RCloud, re-dash, NYU, Superset, Google TensorBoard	Artigraph (Sandbox), Intel Analytics Zoo, DAGSTER, PIFlow	Xtremel (Sandbox), intel CVAT, Doccano, Labelbox, Labelimg, HITACHI Inspire the Spark, Microsoft WAT	EGERIA (Graduated), Bitol (Sandbox), Unity Catalog (Sandbox)	

Model

Inference	Federated Learning	Training	Parameter	Format & Interface	Marketplace	Workflow	Benchmarking	Tool	Data
ADLIX (Incubating), KServe (Incubating), CausalML, MNN, NVIDIA TensorRT, NVIDIA TensorRT, uTensor	FATE (Incubating), Substra (Incubating), OPENFL (Sandbox), PySyft, TensorFlow Federated	PROVOO (Graduated), LEUWIG (Incubating), deepspeed, DLover, Microsoft Federated Learning Client, Petastorm, TorchRec	HYPERSORT, KATIB, talos	ONNX (Graduated), Uber NeuroPod, Microsoft OpenVINO	Machine Learning Exchange (Sandbox), Acumos (Archived), IBM	Flyte (Graduated), kedro (Incubating), argo, Azkaban, BENTONL, Cadence, Couler, CYCLOPS, DataBolt ddtflow, kestra, Spotify ligi, mLeap, Orchest, PREFECT, TRAINS	DAWN Bench, MLPerf	FlagAI (Sandbox), Quicowa AIMET, FLAML, Microsoft MMLoss, AWS MMS, Amazon Neo-AI, NETR@N, ONNX RUNTIME, PipelineAI, studio.ml, Google TensorFlow Model Garden, AWS TorchServe, turti	RWIK LANGUAGE VOICE (Incubating)

Distributed Computing

Computing & Management	Interface	Security & Privacy	Natural Language Processing	Notebook Environment	Explainability	Adversarial	Bias & Fairness
EDL (Incubating), SOAJS (Incubating), Bahir (Incubating), MESOS, Apache Ranger, SPARK, STORM, GNS3, NETFLIX genie, GraphScope, kubernetes, intel Nauta, OPENSIFT, Singularity	OPEN VOICE INTEROPERABILITY (Incubating), sparklyr (Incubating), APACHE TORE, LVVY	Google Differential Privacy, IBM HEIB, Microsoft SEAL, Google TensorFlow Privacy, TFEnrypted	DELTA (Incubating), RosaeNLG (Sandbox), Google ALBERT, AllenNLP, flair, LUON, haystack, Kashgari, FACEBOOK LASER, RASA, spaCy, intel NLP Architect, NLP, ParIAI, FACEBOOK PyTorch, TRANSFORMERS, YouTokenToMe	Elyra (Sandbox), colab, BeakerX, ENVO, IP[y]: IPython, jupyter, PolyNote, Stencil, Streamlit	AI Explainability 360 (Incubating), ELIS, Google Lucid, Bolt, Treetinterpreter, ALIBI, Captum, Microsoft HuggingFace Lime, SHAP, SKATER	Adversarial Robustness Toolbox (Graduated), AdvBox, cover torch, cleverhans, UNIVERSITY OF WASHINGTON Foolbox	AI Fairness 360 (Incubating), OPEN VOICE TRUSTMARK (Incubating), Intersectional Fairness (Sandbox), Aequitas (Bias & Fairness Audit), Audit AI, Stanford University, Fairlearn