

Machine Learning	Framework	Platform	Library	Deep Learning	Framework	Platform	Library	Tool	Programming	Programming	Reinforcement Learning			
	Accord.NET, Microsoft Azure ML, Hugging Face, Microsoft LightGBM, MAHOUT, ML.NET, Open Platform for Enterprise AI, RAY, ZenML	Angel, ForestFlow, Graduated, Incubating	1ML, DeepCausality, Recommenders, Sandbox		DeepRec, ShaderNN, Sandbox	BigDL, Catalyst, DL4J, fast.ai, BeyondML, Sandbox	Pyto, Kompute, DASK, InfeNET	Pyto, Kompute, DASK, InfeNET		Pyto, Kompute, DASK, InfeNET		Pyto, Kompute, DASK, InfeNET	Pyto, Kompute, DASK, InfeNET	CleanRL, Coach, DeepMind Lab, Dopamine, Horizon, OpenAI, Google PlanNet, Google SEED RL, Stable Baselines
	SapientML, AutoGluon, CatBoost, Flashlight, MediaPipe, mlpack, OpenCV, OpenAI, OpenAI, OpenAI, OpenAI	Alibaba AI Mix, Apache Systems, AX, cortex, H2O, Kubeflow, METAFLOW, miflow	StarRocks, Lepton, 將軍, Sonnet, Salesforce TransmogritAI, xLearn		SINGA, Chainer, CNTK, dy/net, Alibaba eulter, MindSpore, mxnet, ncn, Pythia, PYTORCH, TensorFlow	DeepDetect, Determined AI, Keras, jina, Chieptnet, PyTorch Ignite, PyTorch Lightning, PyTorchVideo	BoTorch, intel Distiller, plaidML, PyTorch, tvn	Julia, MARS, Numba, NumPy, NYOKA, primegrate, PyMC3, python, R, SciPy, SKIP, Stan		Julia, MARS, Numba, NumPy, NYOKA, primegrate, PyMC3, python, R, SciPy, SKIP, Stan		Julia, MARS, Numba, NumPy, NYOKA, primegrate, PyMC3, python, R, SciPy, SKIP, Stan	Julia, MARS, Numba, NumPy, NYOKA, primegrate, PyMC3, python, R, SciPy, SKIP, Stan	Julia, MARS, Numba, NumPy, NYOKA, primegrate, PyMC3, python, R, SciPy, SKIP, Stan

Data	Education	Lineage	Relational DB	Store & Format	Versioning	Operations	Feature Engineering	Stream Processing	SQL Engine	Visualization	Pipeline Management	Labeling & Annotation	Governance
	DATA PRACTICES.ORG, OpenDS4All	Open Lineage, OpenBytes	CouchDB, MySQL, KV	Milvus, docarray, JanusGraph, LakeSoul	DVC, YafuTool, Oulit	MARQUEZ, Amundsen, datashim, Mathesar, snortel, WHYLABS whylogs	FEAST, feathr	NNStreamer, beam, brooklyn, Flink, fiuentd, kafka, logstash, Pravega, PREFECT, PULSAR, samza, Uber uReplicator	ARACHNE DRILL, HAWQ, presto, SQLFlow, trino	bokeh, plotly Dash, Uber deck.gl, Ecco, Google Facets, Grafana, Metabase, Prometheus, RCloud, redash, NYU, Superset, Google TensorBoard	Artigraph, intel, Analytics Zoo, DAGSTER, PIFlow, TEKION, LIVIA	Xtremel, Doccano, Labelbox, Labeling, HITACHI, Microsoft VeTT	EGERIA, Bitol
		Open Dataology		ALLUXIO, ICEBERG, ORC, ARESDB, ARROW, XROX, CEPH, DELTA LAKE, Dragonfly, druid, hudi, HugsGraph, Influxdb, pandas, Parquet, pilosa, StarRocks, Valid, YEARCH, Vespa, Vineyard									

Model	Inference	Federated Learning	Training	Parameter	Format & Interface	Marketplace	Workflow	Benchmarking	Tool	Data	
	ADLIX, KServe, FATE, Substra, H2O, Ludwig, HYPERICEPT, ONNX, Machine Learning exchange, Acumos, Flyte, kedro, C4TA, Airflow, DAWN Bench, FlagAI, Qualcomm AIMET, Facebook dlm, Microsoft MLflow, AWS MMS, RWKV LANGUAGE MODEL										
	CaravelML, MNN, NVIDIA TensorRT, NVIDIA TensorRT, PySift, TensorFlow Federated, desppeed, Microsoft Federated Learning, Petastorm, TorchRec, talos, Uber NeuroPod, Microsoft Research Kernel, IBM										

Distributed Computing	Computing & Management	Interface	Security & Privacy	Natural Language Processing	Notebook Environment	Trust & Responsible AI	Explainability	Adversarial	Bias & Fairness		
	EDL, SOAJS, Bahir, MESOS, Apache Ranger, OPEN VOICE INTEROPERABILITY, sparklyr, ARNICA TORRE, LUVY		Google Differential Privacy, IBM HElib, Microsoft SEAL, Google TensorFlow Privacy, TEncrypted				DELTA, RosaeNLG, Google ALBERT, AllenNLP, Google Bert, CoreNLP, Mozilla DeepSpeech, fastText, flair, LUON, haystack, Kashgari, Facebook LASER, fastNLP, cisco MindHub, intel NLP Architect, NLP, ParAI, Facebook PyText, RASA, spaCy, Transformers, Facebook XLM, YouTokenToMe	Elyra, colab, ENVD, IPython, jupyter, IBM, Polynote, Stencil, Streamlit	AI Explainability 360, Captum, ELIS, Microsoft InterpretML, UNIVERSITY OF WASHINGTON Lime, Google Lucid, SHAP, SKATER, Bolt, trulens	Adversarial Robustness Toolbox, AdvBox, advertorch, cleverhans, UNIVERSITY OF WASHINGTON Footbox	AI Fairness 360, OPEN VOICE TRUSTMARK, Intersectional Fairness, Aequitas, Audit AI, Standard University, Fairlearn