

**Machine Learning**

Framework	Platform	Library
<ul style="list-style-type: none"> <li>Accord.NET</li> <li>Microsoft AutoGen</li> <li>Hugging Face CANDLE</li> <li>Microsoft LightGBM</li> <li>MAHOOT</li> <li>ML.NET</li> <li>RAY</li> <li>ZenML</li> </ul>	<ul style="list-style-type: none"> <li>Angel (Graduated)</li> <li>ForestFlow (Incubating)</li> <li>Open Platform for Enterprise AI (Sandbox)</li> <li>Alibaba Alink</li> <li>Apache SystemML</li> <li>Ax</li> <li>cortex</li> <li>H2O</li> <li>KubeFlow</li> <li>METAFLow</li> <li>mlflow</li> <li>PredictionIO</li> <li>SELDON</li> <li>VONPAL HABEST</li> </ul>	<ul style="list-style-type: none"> <li>1ML (Sandbox)</li> <li>DeepCausality (Sandbox)</li> <li>Recommenders (Sandbox)</li> <li>SapientML (Sandbox)</li> <li>AutoGluon</li> <li>CarBoost</li> <li>Flashlight</li> <li>MediaPipe</li> <li>mlpack</li> <li>OpenCV</li> <li>OpenML</li> <li>CAFET</li> <li>Learn</li> <li>將軍 Shogun</li> <li>Sonnet</li> <li>safesforce TransmogridAI</li> <li>dmk XGBoost</li> <li>xLearn</li> </ul>

**Deep Learning**

Framework	Platform	Library	Tool
<ul style="list-style-type: none"> <li>DeepRec (Sandbox)</li> <li>ShaderNN (Sandbox)</li> <li>SINGA</li> <li>Chainer</li> <li>Microsoft CNTK</li> <li>dy/net</li> <li>Alibaba euler</li> <li>MindSpore</li> <li>mxnet</li> <li>ncnn</li> <li>Pythia</li> <li>PYTORCH</li> <li>TensorFlow</li> </ul>	<ul style="list-style-type: none"> <li>TONY (Incubating)</li> <li>DeepDetect</li> <li>Determined AI</li> <li>jina</li> <li>Onepanel</li> <li>Polyaxon</li> <li>HEBBI Alibaba.com AI Accelerating</li> </ul>	<ul style="list-style-type: none"> <li>BigDL</li> <li>Catalyst</li> <li>DL4J</li> <li>fast.ai</li> <li>Keras</li> <li>PyTorch Ignite</li> <li>PyTorch Lightning</li> <li>PyTorchVideo</li> </ul>	<ul style="list-style-type: none"> <li>BeyondML (Sandbox)</li> <li>BoTorch</li> <li>intel Distiller</li> <li>ploidML</li> <li>PyTorch Hub</li> <li>PyTorch</li> <li>tvm</li> </ul>

**Programming**

Programming	Reinforcement Learning
<ul style="list-style-type: none"> <li>Pyro (Graduated)</li> <li>Kompute (Incubating)</li> <li>DASK</li> <li>InterNET</li> <li>julia</li> <li>MARS</li> <li>Numba</li> <li>NumPy</li> <li>NYOKA</li> <li>pymc3</li> <li>PyMC3</li> <li>python</li> <li>R</li> <li>SciPy</li> <li>SKIP</li> <li>Stan</li> </ul>	<ul style="list-style-type: none"> <li>CleanRL</li> <li>Coach</li> <li>DeepMindLab</li> <li>Dopamine</li> <li>Horizon</li> <li>OpenAI</li> <li>Google PlaNet</li> <li>Google SEED RL</li> <li>State Baselines</li> </ul>

**Data**

Education	Lineage	Relational DB	Store & Format	Versioning	Operations	Feature Engineering	Stream Processing	SQL Engine	Visualization	Pipeline Management	Labeling & Annotation	Governance
<ul style="list-style-type: none"> <li>DATA PRACTICES.ORG (Incubating)</li> <li>OpenDS4All (Incubating)</li> </ul>	<ul style="list-style-type: none"> <li>OpenLineage (Graduated)</li> <li>OpenBytes (Sandbox)</li> <li>Open Dataology (Sandbox)</li> </ul>	<ul style="list-style-type: none"> <li>CouchDB</li> <li>MySQL</li> <li>KV</li> </ul>	<ul style="list-style-type: none"> <li>Milvus (Graduated)</li> <li>docarray (Incubating)</li> <li>JanusGraph (Incubating)</li> <li>LakeSoul (Sandbox)</li> <li>ALLUXIO</li> <li>ICEBERG</li> <li>ORC</li> <li>AREDSB</li> <li>ARROW</li> <li>DELTA LAKE</li> <li>Dragonfly</li> <li>druvid</li> <li>hudi</li> <li>HugeGraph</li> <li>Influxdb</li> <li>pandas</li> <li>Parquet</li> <li>pilosa</li> <li>StarRocks</li> <li>Valid</li> <li>YEARCH</li> <li>vespa</li> <li>Vineyard</li> </ul>	<ul style="list-style-type: none"> <li>distadance</li> <li>DVC</li> <li>Quilt</li> </ul>	<ul style="list-style-type: none"> <li>MARQUEZ (Graduated)</li> <li>Amundsen (Incubating)</li> <li>datashim (Incubating)</li> <li>Mathesar</li> <li>snorl</li> <li>WHYLABS whylogs</li> </ul>	<ul style="list-style-type: none"> <li>FEAST (Incubating)</li> <li>feathr (Sandbox)</li> <li>Featuretools</li> <li>ML OpenMLDS</li> <li>tsfresh</li> </ul>	<ul style="list-style-type: none"> <li>NNStreamer (Incubating)</li> <li>brocklin</li> <li>Flink</li> <li>fluentd</li> <li>kafka</li> <li>logstash</li> <li>PREFECT</li> <li>PULSAR</li> <li>samza</li> <li>Uber uReplicator</li> </ul>	<ul style="list-style-type: none"> <li>DRILL</li> <li>HAWQ</li> <li>presto</li> <li>SQLFlow</li> <li>trino</li> </ul>	<ul style="list-style-type: none"> <li>bakeh</li> <li>plotly Dash</li> <li>Uber deck.gl</li> <li>Ecco</li> <li>Google Facets</li> <li>Grafana</li> <li>Metabase</li> <li>Prometheus</li> <li>RCloud</li> <li>redash</li> <li>NYU</li> <li>Superset</li> <li>Google Tableau</li> </ul>	<ul style="list-style-type: none"> <li>Artigraph (Sandbox)</li> <li>Analytics Zoo</li> <li>DAGSTER</li> <li>PIFlow</li> <li>TENON</li> <li>TPOT</li> </ul>	<ul style="list-style-type: none"> <li>Xtremel (Sandbox)</li> <li>Labelbox</li> <li>LabelImg</li> <li>HITACHI Inspire the Next</li> <li>Microsoft VOT</li> </ul>	<ul style="list-style-type: none"> <li>EGERIA (Graduated)</li> <li>Bitol (Sandbox)</li> <li>IBM CVAT</li> <li>Doccano</li> <li>Microsoft VOT</li> </ul>

**Model**

Inference	Federated Learning	Training	Parameter	Format & Interface	Marketplace	Workflow	Benchmarking	Tool	Data
<ul style="list-style-type: none"> <li>ADLIX (Incubating)</li> <li>KServe (Incubating)</li> <li>CaixaML</li> <li>MNN</li> <li>NVIDIA TensorRT</li> <li>NVIDIA TensorRT</li> <li>uTensor</li> <li>LLM</li> </ul>	<ul style="list-style-type: none"> <li>FATE (Incubating)</li> <li>Substra (Incubating)</li> <li>OPENFL (Sandbox)</li> <li>PySyft</li> <li>TensorFlow Federated</li> </ul>	<ul style="list-style-type: none"> <li>Horovod (Graduated)</li> <li>LEWDIG (Incubating)</li> <li>deepsped</li> <li>Microsoft TensorFlow on Azure</li> <li>Petastorm</li> <li>TorchRec</li> </ul>	<ul style="list-style-type: none"> <li>HYPERBOLT</li> <li>KATIB</li> <li>talos</li> </ul>	<ul style="list-style-type: none"> <li>ONNX (Graduated)</li> <li>Uber Neopod</li> <li>Microsoft ONNX Runtime</li> </ul>	<ul style="list-style-type: none"> <li>Machine Learning Exchange (Sandbox)</li> <li>Acumos (Archived)</li> <li>IBM</li> </ul>	<ul style="list-style-type: none"> <li>Flyte (Graduated)</li> <li>kedro (Incubating)</li> <li>CLAYME (Sandbox)</li> <li>airflow</li> <li>nifi</li> <li>argo</li> <li>Azaban</li> <li>BENTONML</li> <li>Cadence</li> <li>Couler</li> <li>CYCLONE</li> <li>DataBolt dflow</li> <li>kestra</li> <li>Spotify luigi</li> <li>mleap</li> <li>Orchest</li> <li>PREFECT</li> <li>TRAINS</li> <li>volterra</li> </ul>	<ul style="list-style-type: none"> <li>DAWN Bench</li> <li>MLPerf</li> </ul>	<ul style="list-style-type: none"> <li>FlagAI 达智 (Sandbox)</li> <li>Quicowa AIMET</li> <li>FLAML</li> <li>Microsoft MMLoss</li> <li>amazon Neo-AI</li> <li>NETRIN</li> <li>ONNX RUNTIME</li> <li>PipelineAI</li> <li>studio.ml</li> <li>Google TensorFlow Hub</li> <li>aws TorchServe</li> <li>turi</li> </ul>	<ul style="list-style-type: none"> <li>RWK LANGUAGE VOICE (Incubating)</li> </ul>

**Distributed Computing**

Computing & Management	Interface	Security & Privacy	Natural Language Processing	Notebook Environment	Trusted & Responsible AI	Explainability	Adversarial	Bias & Fairness
<ul style="list-style-type: none"> <li>EDL (Incubating)</li> <li>SOAJS (Incubating)</li> <li>Mesos</li> <li>Apache Ranger</li> <li>spark</li> <li>STORM</li> <li>GNSS</li> <li>NETFLIX genie</li> <li>GraphScope</li> <li>kubernetes</li> <li>intel Nauta</li> <li>OPENSIFT</li> <li>Singularity</li> </ul>	<ul style="list-style-type: none"> <li>OPEN VOICE INTEROPERABILITY (Incubating)</li> <li>sparklyr (Incubating)</li> <li>APACHE TORE</li> <li>LVVY</li> </ul>	<ul style="list-style-type: none"> <li>Google Differential Privacy</li> <li>IBM HEIB</li> <li>Microsoft SEAL</li> <li>Google TensorFlow Privacy</li> <li>TFEnrypted</li> </ul>	<ul style="list-style-type: none"> <li>DELTA (Incubating)</li> <li>RosaeNLG (Sandbox)</li> <li>flair</li> <li>LUON</li> <li>haystack</li> <li>Kashgari</li> <li>FACEBOOK LASER</li> <li>intellabs</li> <li>intel NLP Architect</li> <li>NLP</li> <li>ParIAI</li> <li>FACEBOOK PyTorch</li> <li>RASA</li> <li>spaCy</li> <li>AI2 Labs Spacy</li> <li>Transformers</li> <li>FACEBOOK XLM</li> <li>YouTokenToMe</li> </ul>	<ul style="list-style-type: none"> <li>Elyra (Sandbox)</li> <li>colab</li> <li>BeakerX</li> <li>ENVO</li> <li>IP[y]: IPython</li> <li>juptyer</li> <li>Streamlit</li> <li>Stencilo</li> </ul>	<ul style="list-style-type: none"> <li>AI Explainability 360 (Incubating)</li> <li>ELIS</li> <li>Google Lucid</li> <li>Bolt</li> <li>TruInterpreter</li> <li>ALIBI</li> <li>Captum</li> <li>Microsoft HuggingFace</li> <li>UNIVERSITY OF WASHINGTON Lime</li> <li>SHAP</li> <li>SKATER</li> <li>trulens</li> </ul>	<ul style="list-style-type: none"> <li>Adversarial Robustness Toolbox (Graduated)</li> <li>AdvBox</li> <li>codover torch</li> <li>cleverhans</li> <li>UNIVERSITY OF WASHINGTON Foolbox</li> </ul>	<ul style="list-style-type: none"> <li>AI Fairness 360 (Incubating)</li> <li>Intersectional Fairness (Sandbox)</li> <li>OPEN VOICE TRUSTMARK (Incubating)</li> <li>Aequitas (Bias &amp; Fairness Audit)</li> <li>Audit AI</li> <li>Fairlearn</li> </ul>	