

Jonathan Jin

Machine Learning Infrastructure Engineer

jonathanjin.in me@jonathanjin.in linkedin.com/in/jinnovation github.com/jinnovation

SELECT EXPERIENCE

Present 03/2021	Spotify SENIOR MACHINE LEARNING SOFTWARE ENGINEER New York <i>Member of ML Platform. Working on: multi-cluster, ML-centric cloud infrastructure with Kubernetes and Kubeflow; and ML engineering SDKs, based around TFX, for pipeline orchestration, feature engineering, data processing, model analysis + validation, model deployment, etc.</i> <ul style="list-style-type: none">➤ Drove the promotion of our joint SDK/infrastructure offering, Spotify Kubeflow (SKF), to general availability; established baseline product excellence, e.g. API design philosophy, documentation tooling, etc.;➤ Evangelized the use of rigorous observability tooling to define and track SLOs for our multi-cluster, ML-centric cloud infrastructure; established a SLO-tracking strategy, using Terraform to reproducibly formalize SLOs in GCP for all clusters in our multi-cluster infrastructure;➤ Spearheaded development of a custom metrics exporter, transforming Kubernetes events into actionable Prometheus metrics to address gaps in our observability/reliability strategy. <div>TensorFlow TFX Kubernetes Kubeflow GCP Terraform Prometheus gRPC Ray</div>
01/2021 12/2019	NVIDIA SENIOR SYSTEMS SOFTWARE ENGINEER, AI INFRASTRUCTURE New York <i>Member of AI Infrastructure. Contributor to MagLev, NVIDIA's AI infrastructure for autonomous vehicle development. Also contributed to Modulus, the deep learning SDK for autonomous vehicle R&D.</i> <ul style="list-style-type: none">➤ Initiated development of solution for "hybrid data/model parallelism" using a Ray-based parameter server design and Horovod to enable horizontally-scalable multi-task training;➤ Co-delivered a Kubernetes-based scheduling mechanism to enable priority access to cluster resources for select use cases, e.g. prep for upcoming external demos, via virtual "resource shares"; <div>Kubernetes TensorFlow Horovod Ray gRPC Bazel SwiftStack</div>
12/2019 08/2018	Twitter MACHINE LEARNING SOFTWARE ENGINEER New York <i>Member of Cortex, Twitter's central ML platform organization. Worked on: workflow orchestration; experiment management/iteration; and overall ML engineering productivity.</i> <ul style="list-style-type: none">➤ Spearheaded initial integration of TensorFlow Extended (TFX) with legacy Airflow-based orchestration platform to increase agility of workflow development, iterative execution/experimentation, etc.➤ Enabled distributed training of TensorFlow models in Apache Mesos from an Airflow pipeline via Deepbird, Twitter's TensorFlow-based model training/evaluating/serving framework <div>Apache Airflow Apache Aurora TensorFlow</div>
07/2018 07/2016	Uber SOFTWARE ENGINEER New York <i>Member of Observability Applications. Worked on forecasting and anomaly detection for time series metrics.</i> <ul style="list-style-type: none">➤ Re-architected time-series metric forecasting pipeline to support concurrent batch backfilling; reduced asymptotic burden on underlying data store by 90%➤ Extended M3-based anomaly detection platform to support multiple forecasting models; carried out migration to intercommunicating services with zero downtime and full backwards compatibility <div>Go Java M3 Apache Thrift Cassandra</div>

SKILLS

Programming Languages	Python, Go, Bash, C++, Java
Machine Learning	Kubeflow, TensorFlow Extended (TFX), TensorFlow, Ray
Distributed Systems	Kubernetes, gRPC, Docker
Infrastructure Tooling	Bazel, Prometheus, Grafana, M3, Cassandra, Apache Airflow
Cloud Infrastructure	Google Cloud Platform (GCP), Terraform

EDUCATION

2015 **University of Chicago**, B.S. Computer Science, B.A. Economics