

Jonathan Jin

Machine Learning Infrastructure Engineer

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SELECT EXPERIENCE

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| Present 03/2021 | Spotify SENIOR MACHINE LEARNING ENGINEER New York <i>Member of ML Platform. Working on Hendrix, Spotify's centralized ML platform. My focuses revolve around: ML governance; cloud-native infra; and SDK development for MLOps.</i> <ul style="list-style-type: none">➤ Spearheaded the development of the Hendrix Registry as part of company-wide AI/ML governance initiative, delivering a Backstage-based AI system and model card solution, resulting in over 100 models registered by 40 teams company-wide in under a quarter;➤ Driving cross-functional collaboration between ML Platform and Data Platform on data- and ML-native lineage solutions to empower responsible AI development, manage costs, and codify org-wide best practices and ML development standards;➤ Led multi-quarter promotion of ML Platform's flagship pipeline orchestration product to general availability; collaborated with product and engineering stakeholders across peer teams within ML Platform as well as "power user" teams – other applied ML teams at Spotify – to: define multi-quarter engineering roadmap; provide technical and project leadership/direction. Contributed to an increase in ML Platform adoption of 50% and increase in user satisfaction of 10%.➤ Providing ongoing mentorship and support to three junior IC team members, i.e. half of the team's IC makeup; holding bi-weekly one-on-ones with each to: provide technical and career mentorship; help identify potential future ownership areas and unblock existing ones; and address ongoing concerns.➤ Implemented formalized SLO tracking for multi-cluster, pipeline execution infrastructure; used Terraform to canonicalize SLO definitions for monitoring and violation reporting in Google Cloud Monitoring; implemented custom Kubernetes listener to implement nuanced and domain-specific SLIs.➤ Bootstrapping early-stage development of centralized, managed Ray infrastructure based on KubeRay for high-performance ML prototyping and experimentation; collaborating with product and engineering leadership to concretize our platform's long-term Ray strategy; <div>Ray Kubernetes Kubernetes Operators Go GCP Backstage Terraform Helm TensorFlow TFX Kubeflow Prometheus gRPC</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>Ray Horovod TensorFlow Kubernetes Helm 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 Deeppred, Twitter's TensorFlow-based model training/evaluating/serving framework <div>Apache Airflow Apache Aurora TensorFlow</div> |

SPEAKING

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| 2022 | TWIMLcon AI Platforms 2022 , "How Spotify is Navigating an Evolving ML Landscape with Hendrix Platform" |
| 2022 | MLconf , "Empowering Traceable and Auditable ML in Production at Spotify with Hendrix" |
| 2021 | KubeCon + CloudNativeCon , "Scaling Kubeflow for Multi-tenancy at Spotify" |

SKILLS

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| Programming Languages | Python, Go, Bash, C++, Java |
| Machine Learning | Ray, Kubeflow, TensorFlow, TensorFlow Extended (TFX), |
| 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
