

# Jonathan Jin

Machine Learning Infrastructure Engineer

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## SELECT EXPERIENCE

Present 03/2021	<b>Spotify</b> SENIOR MACHINE LEARNING ENGINEER <span>New York</span> <i>Member of ML Platform. Working on <a href="#">Hendrix</a>, 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"><li>➤ Spearheaded the development of the Hendrix Registry as part of company-wide AI/ML governance initiative; collaborated with cross-functional stakeholders in Legal, Trust &amp; Safety, etc. to define, design, and deliver a <a href="#">AI system</a> and <a href="#">model card</a> solution based on <a href="#">Backstage</a> and <a href="#">Kubernetes-based declarative infrastructure</a> in under a quarter, resulting in over 100 models registered by 40 teams company-wide in less than a quarter;</li><li>➤ Driving cross-functional collaboration between ML Platform and Data Platform on ML-native data modeling and lineage solutions to empower responsible AI development, manage costs, and codify org-wide best practices and ML development standards;</li><li>➤ 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%.</li><li>➤ 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.</li><li>➤ 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;</li></ul> <div><a href="#">Ray</a> <a href="#">Kubernetes</a> <a href="#">Kubernetes Operators</a> <a href="#">Go</a> <a href="#">GCP</a> <a href="#">Backstage</a> <a href="#">Terraform</a> <a href="#">Helm</a> <a href="#">TensorFlow</a> <a href="#">TFX</a> <a href="#">Kubeflow</a> <a href="#">Prometheus</a> <a href="#">gRPC</a></div>
01/2021 12/2019	<b>NVIDIA</b> SENIOR SYSTEMS SOFTWARE ENGINEER, AI INFRASTRUCTURE <span>New York</span> <i>Member of AI Infrastructure. Contributor to <a href="#">MagLev</a>, NVIDIA's AI infrastructure for autonomous vehicle development. Also contributed to <a href="#">Modulus</a>, the deep learning SDK for autonomous vehicle R&amp;D.</i> <ul style="list-style-type: none"><li>➤ 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;</li><li>➤ 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";</li></ul> <div><a href="#">Ray</a> <a href="#">Horovod</a> <a href="#">TensorFlow</a> <a href="#">Kubernetes</a> <a href="#">Helm</a> <a href="#">gRPC</a> <a href="#">Bazel</a> <a href="#">SwiftStack</a></div>
12/2019 08/2018	<b>Twitter</b> MACHINE LEARNING SOFTWARE ENGINEER <span>New York</span> <i>Member of <a href="#">Cortex</a>, 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"><li>➤ Spearheaded initial integration of <a href="#">TensorFlow Extended (TFX)</a> with <a href="#">legacy Airflow-based orchestration platform</a> to increase agility of workflow development, iterative execution/experimentation, etc.</li><li>➤ Enabled distributed training of TensorFlow models in Apache Mesos from an Airflow pipeline via <a href="#">Deeplib</a>, Twitter's TensorFlow-based model training/evaluating/serving framework</li></ul> <div><a href="#">Apache Airflow</a> <a href="#">Apache Aurora</a> <a href="#">TensorFlow</a></div>

## SPEAKING

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

## SKILLS

Programming Languages	Python, Go, C++, Java
Machine Learning and MLOps	Ray, Kubeflow, Apache Airflow, TensorFlow, TensorFlow Extended (TFX)
Infrastructure and Distributed Systems	Google Cloud (GCP), Backstage, Kubernetes, Terraform, Prometheus, Bazel, gRPC, Docker

## EDUCATION

2015	<b>University of Chicago</b> , B.S. Computer Science, B.A. Economics
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