

Cover Letter: Staff Engineer, Commerce ML Data Products

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Hi Netflix team,

I'm applying for the Staff Engineer role on the Commerce ML Data Products team. After reading the job description, I realized I've been building a lot of what this role needs - I just haven't been calling it "ML infrastructure."

For the past 4 years at Walmart, I've built real-time data systems that process internet-scale traffic: distributed feature aggregation, low-latency APIs, Kafka streaming pipelines, and internal platforms that make it easier for engineers to ship code. The architecture patterns are basically what ML systems need - feature computation, inference serving, event-driven data products. I've just been applying them to fraud prevention instead of Commerce optimization.

A few examples of what I've built:

My main project is a distributed counting system that aggregates traffic signals in real-time. It's essentially a feature store - we process millions of events per second, compute features with sub-second latency, and serve them through a low-latency API. I had to figure out the same problems Netflix faces: handling late-arriving events, ensuring exactly-once semantics, backfilling historical data, monitoring data quality.

I've also built several Kafka-based systems. One of them handles Black Friday traffic (10x normal load) without breaking. I know the challenges: partition strategies, consumer lag, exactly-once processing, topic retention policies. Netflix's Commerce events probably have similar characteristics - high volume, strict ordering requirements, multiple downstream consumers.

On the platform side, I built an internal tool at Walmart that abstracts infrastructure complexity. Engineers write their logic, and the platform handles orchestration, secrets, scheduling, and logging. The goal was to make the right thing the easy thing. It cut our time-to-production by 60%. This is the kind of thing Netflix ML engineers probably need too - easy access to Commerce data so they can focus on models instead of infrastructure.

What I need to be upfront about:

I haven't used Spark or Flink in production. My distributed processing has been with Go pipelines and Kafka. But the principles are the same: partitioning, fault tolerance, state management, backpressure. I'm confident I can learn these frameworks quickly - I've picked up new tech throughout my career, and I'm a top 2% Cursor AI user because I like adopting new tools.

I also haven't worked directly on ML models. I've built the infrastructure that ML systems need, but not the models themselves. That said, this role is about building the data substrate for ML, not the models. I understand feature freshness, online/offline consistency, backfill requirements, data quality - I've solved these problems at Walmart. What I want to learn is how ML engineers at Netflix think about data, so I can build better products for them.

Why Netflix?

The culture of freedom and responsibility resonates with me. I've done well in environments where I'm trusted to make technical decisions and drive things forward. At Walmart, I've had full ownership of architecture decisions - choosing tech stacks, designing systems, setting technical direction. That freedom works for me because I balance it with responsibility: I build systems that run reliably for years.

The Commerce team's mission is compelling too. Pricing, payments, identity, acquisition - these are hard problems where ML can create real customer value. I want to be the person building the infrastructure that makes Commerce ML fast, reliable, and trusted.

What I bring beyond technical skills:

I've been doing Staff-level work at Walmart: leading technical strategy, running design reviews, mentoring engineers. I can influence across teams without needing authority. I've translated product requirements into architecture decisions and worked with security, product, and platform teams.

I care about the long-term health of systems. My stuff runs at 99.99% uptime because I build monitoring into every layer, write runbooks, and have plans for when things fail at 3 AM. I don't just ship features - I ship systems that keep running.

I thrive in ambiguous situations. When requirements are vague, I prototype to make ideas concrete and iterate based on feedback. Bias toward action over endless planning.

Ready to contribute:

I'm not trying to "break into ML." I'm trying to take patterns I've been building at Walmart scale and apply them to Netflix's Commerce ML needs. I know distributed systems, operational reliability, and how to design products that engineers like using.

I'd like to talk more about how my infrastructure experience can help Netflix Commerce ML scale and innovate.

Thanks for considering my application.

Hao Wang

P.S. I'm looking for fully remote work. Compensation-wise, I'm targeting \$300K-\$500K total comp, which fits within your range. Flexible on salary vs. stock split - I want to be invested in Netflix's success.