

Jeff Rose

Staff Backend Engineer — Distributed Systems & Financial Infrastructure

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Founding engineer at Rivalry (TSX: RVLV), building the regulated betting platform's financial transaction infrastructure from inception through IPO over 9 years — distributed locking, compliance pipelines, promotional wallet systems, and cryptocurrency operations. Designed core architectural patterns still in production use nearly a decade later, and built systems end-to-end from microservice platforms to real-time game servers to regulatory reporting. Seeking a Staff or Principal role where deep platform expertise and end-to-end ownership of complex systems drive the product forward.

SKILLS

Languages: PHP, JavaScript/Typescript/Node.js, C#, SQL

Frameworks: Laravel, Filament, Unity, Nuxt 3/Vue.js

Databases & Caching: MySQL/Postgres, Redis, Elasticsearch

Architecture: Microservice Design, Event-Driven Architecture, Multi-Region Distributed Systems, Asynchronous Processing

Security & Compliance: Distributed Locking, HMAC Signing, PGP/AES Encryption, KYC/AML, Responsible Gambling, Casino Game Fairness Certification (GLI), Regulatory Reporting

Real-Time & Messaging: WebSockets (uWebSockets.js/Socket.io), Redis Pub/Sub, RabbitMQ/AMQP, Pusher, HLS/RTMP

Cloud, DevOps & AI: Docker/Kubernetes, AWS (S3, EC2), Ansible, Vercel, CI/CD (CircleCI, GitHub Actions), OpenAI API, Claude Code

EXPERIENCE

Rivalry (TSX: RVLV)

Founding engineer from inception through IPO; from sole backend engineer alongside the CTO to a platform processing millions in monthly wagers across regulated markets

System Architect / Senior Engineer

2023 — 2026

- Designed and built Promo V2: a split-balance wallet tracking real and bonus funds locked behind wagering rollover conditions before withdrawal. Enabled upfront matched-deposit bonuses — replacing a system where users waited until rollover completion — with split-balance transaction reporting for regulators
- Built cryptocurrency wallet infrastructure on Fireblocks MPC: automated deposit sweeping from per-user hot wallets to omnibus vaults, dynamic gas fee estimation across Ethereum, Solana, and BSC, and a translation layer converting crypto balances to fiat for casino providers that didn't natively support cryptocurrency
- Designed CasinoService: a framework standardizing casino provider integrations into a consolidated table structure and common interface for auth, wagers, wins, and rollbacks. Replaced fragmented tables and duplicated code, cutting new provider integration time
- Migrated the internal back-office to Laravel Filament, eliminating the Vue.js frontend dependency and accelerating internal tool development for compliance and operations teams. Required resolving production-only issues with binary UUID hydration and cross-region database replication that staging couldn't surface

Game Platform Architect

2022 — 2023

- Designed the Games Service from scratch as a B2B microservice platform — multi-tenant architecture with HMAC-SHA256 signed API, encryption-at-rest, idempotent credit/debit processing, and recovery of interrupted game sessions to protect in-progress wagers
- Built a GLI-certified cryptographically secure random number generator as an isolated package — firewalled from the Games Service so no external changes could trigger re-certification, with CLI tooling for submission-ready output
- Built a low-latency real-time game server on uWebSockets.js supporting 2,000+ concurrent WebSocket connections, with financial transaction integrity for real-money wager placement and cashout settlement. Rewrote from Socket.io for improved throughput and WebSocket standards compliance

Platform Engineer / Regulatory Lead

2020 — 2022

- Extended LockService so callers may declare their own locking requirements while deferring side-effects until all locks release and transactions commit — eliminating a class of race conditions where listeners read stale or rolled-back data. Adopted as a core pattern across all financial operations
- Built regulatory compliance infrastructure for Australia (NTRC) and Ontario (iGO): PGP-encrypted bet ledger reporting, PEP/sanctions screening, responsible gambling limits with rolling daily/weekly/monthly loss windows, and jurisdiction-aware permission rules for multi-market operations
- Designed and built the Rushlane real-time multiplayer pipeline: Laravel backend with Redis pub/sub transport and a live video delivery system (OBS → RTMP → Wowza → HLS) modelled on Twitch, delivering live interactive betting experiences to viewers

Founding Engineer

2017 – 2019

- Built LockService — the platform's foundational distributed locking pattern pairing MySQL GET_LOCK() with database transactions inside clearly defined closures, ensuring consistent commit/rollback behaviour across all callers. Still in active production 9 years later.
- Built the platform's KYC/AML compliance pipeline: identity verification via Trulioo and Jumio, multi-factor AML risk scoring with FATF-deficient country weighting, PEP/sanctions screening, and automated deposit limits — required to retain the platform's gambling license
- Integrated Sportradar's Managed Trading Services (MTS) via AMQP/RabbitMQ — the core odds feed and bet acceptance system that made the sportsbook functional. Built the full bet lifecycle from match data ingestion through placement, acceptance/rejection with retry logic, and settlement

Axon Interactive Inc.

2014 – 2017

Founder & Lead Developer

- Shipped Quench on Nintendo Switch and Steam — a commercial indie game passing Nintendo's lot-check certification process end-to-end. Led a 3–5 person games and web development company delivering client projects in Unity/C#, PHP, Laravel, and Node.js

Humber College

2014 – 2017

Part-Time Instructor

- Taught game programming: Physics for Game Developers, Introduction to Web Development

Aversan Inc.

2008 – 2011

Software Test Engineer

- QA testing on the F-35 Joint Strike Fighter, F-22 Raptor, C-130 Hercules, and London Underground automated subway signalling system using automated testing suites

EDUCATION

University of Guelph

B.Eng. (Honours), Engineering Systems & Computing

Humber College

First in Class, Diploma of Game Programming