Tyrus Malmström, Senior Software Engineer

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LINKS

tiru5.me, LinkedIn, GitHub

PROFILE

Senior Software Engineer with 8+ years of experience specializing in **real-time video streaming, WebRTC, and distributed systems**. Proven track record of **scaling interactive platforms** to thousands of concurrent users and leading complex technical integrations following company acquisitions. Expert in **modernizing legacy codebases** and architecting high-availability serverless solutions using **Go, TypeScript, and AWS**.

TECHNICAL SKILLS

Languages: TypeScript, JavaScript, Go, Rust, C++, Python, PHP, Elixir

Backend & Cloud: Node.js, Deno, Bun, AWS, Serverless, Docker, PostgreSQL

Frontend/Frameworks: React, Next.js, Vue, Nuxt, Vite, Astro, Angular

Protocols: HTTPS, gRPC, WebRTC, RTMP, RTSP, Dante, NDI, mDNS, MQTT

EXPERIENCE

Jun 2025 — Present

Senior Software Engineer, Audinate
Portland

- Spearheaded the technical integration of the Iris platform into the broader Audinate Dante ecosystem, unifying video workflows with industry-standard audio protocols.
- Implemented **WebRTC**-based real-time transport for video & audio, significantly improving streaming reliability and user responsiveness in cloud production environments.
- Engineered resilient RTMP ingestion and egress pipelines, enabling enterprise-grade streaming compatibility across major platforms and AV workflows.
- Expanded mDNS discovery and multi-protocol communication (NDI, ONVIF) to strictly align with Dante device-interoperability standards and security requirements.
- Tech stack**:** TypeScript/React, Electron, Go, AWS Serverless, WebRTC, Rust, Dante/AV Protocols.

Dec 2024 — Jun 2025

Senior Full-Stack Engineer, Iris
San Francisco

- Engineered a **WebGL**-accelerated auto-tracking pipeline utilizing YOLO-based detection to achieve accurate, low-latency subject tracking directly in the browser.
- Built the core interoperability logic for mDNS discovery and multi-protocol communication (NDI, RTSP, RTMP, ONVIF), enabling seamless control of diverse PTZ camera models.
- Architected and deployed the initial serverless Go microservices (AWS Lambda + API Gateway), establishing the pattern for low-latency client–server communication.
- Optimized the studio.client application lifecycle logic and rendering patterns, reducing unnecessary re-renders and improving initial page load times by ~5%.

Aug 2022 — Dec 2024

Senior Software Engineer, WeVideo
Lake Forest

- Spearheaded the technical integration of PlayPosit into the WeVideo platform, evolving the prototype into "WeVideo Interactivity," which became a core product feature.
- Led the migration of repositories from Bitbucket to GitHub and modernized engineering workflows, consolidating tooling to unify the development ecosystem.
- Refactored authentication workflows to implement robust **SAML and SSO** integrations, improving security and reliability for enterprise clients.
- Engineered real-time collaborative video editing features using WebRTC and optimized synchronization logic, enabling reliable interaction with **<100ms latency**.

Mar 2021 — Aug 2022

Full-Stack Developer, PlayPosit
Denver

- Led the implementation of **LTI 1.3** specifications (deep-linking, grade passback, auth) and successfully migrated enterprise clients from legacy LTI 1.1 integrations with zero loss of functionality.
- Introduced a full unit testing infrastructure and contributed comprehensive test coverage, improving stability and preventing regressions across critical workflows.
- Implemented enhanced video playback technologies for the Player microservice, improving compatibility, performance, and resilience.
- Identified performance bottlenecks and executed targeted optimizations within the Player microservice, enabling it to reliably support **5,000+ concurrent users** with minimal downtime.

| Jun 2017 — Feb 2021 | Front End Engineer, bulb, Inc. | Fort Collins |

- Streamlined and unified the front-end build process, enabling consistent distribution of production-ready code across multiple environments.
- Spearheaded the migration from **AngularJS to Angular**, leading architectural decisions, implementing core framework updates, and ensuring a smooth transition for both developers and end users.
- Developed a cross-browser audio recording feature using **WebRTC APIs**, enabling users to reliably capture high-quality audio regardless of browser type or version.

EDUCATION

| Aug 2013 — May 2017 | B.S. in Computer Science, Colorado State University |