

Jay Jayabose

Software Engineer

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Profile

I'm a software engineer with multiple years of experience in JavaScript and Ruby and proficiency in TypeScript, Go, and various frameworks. Drawing on my business-side experience in early-stage tech companies, I contribute a user-centered and commercial perspective. Most recently, I recently created Arbiter, an open-source framework for video conferencing in web applications.

Experience

Software Engineer

2023 – present | Remote

Arbiter (<https://arbiter-framework.com> 📄)

- Co-created Arbiter, an open-source, framework that seamlessly integrates room-based video conferencing into web applications and automates deployment to AWS
- Designed, prototyped, and built a video conferencing server (Selective Forwarding Unit) that distributes media streams, and manages call state for 15+ participants in a single room
- Developed a signaling server that enables negotiation of WebRTC connections and synchronizes call state among participants (WebSocket API Gateway, Lambdas, DynamoDB)
- Wrote a RESTful API to manage backend interactions between the frontend application and AWS infrastructure that provisions new ECS container instances to meet user demand (React, HTTP API Gateway, Lambdas)
- Containerized server components and designed a scaling mechanism that reduces complexity of server deployment by 10+ steps and enables API-based scaling (Docker, ECS, Fargate)
- Worked on CLI tool that automates the provisioning of AWS cloud infrastructure (ECS Clusters, WebSocket Gateway, HTTP API Gateway, IAM roles, etc.), reducing a 50+ step workflow to a single command
- Decoupled services based on traffic patterns and resolved race and concurrency challenges associated with event-driven architecture
- Implemented a pair-programming framework for a remote team of 3 engineers to foster mentorship and collaboration, resulting in increased team-wide ownership of code and clarity on technical decisions
- Authored a comprehensive technical case study providing analysis of Arbiter's problem domain, system design, and engineering decisions (arbiter-framework.com/case-study 📄)

Software Engineer, Self-employed

2022 – 2023 | Remote

Selected Projects

- DreamCatcher: Tool for debugging webhooks, built with Node.js, Express, MongoDB, Digital Ocean Droplet, Nginx
- Shoply: E-commerce shopping cart, built with React, Node.js, Express, RESTful API, MongoDB
- Donzo: Todo list application, built with Ruby, Sinatra, ERB, RESTful API, PostgreSQL

Commercial Operator (various titles), Multiple companies

2005 – 2022 | New York, NY

I worked on the business side of startups operating predictive analytics platforms to enable digital media products.

- Contributed to company OKRs and managed a team responsible for 100% of company revenue
- Partnered with product team to develop novel media products for Expedia, Inc.
- Worked with product and engineering to pivot a 20-person company to a display advertising business
- Managed development of custom direct-response marketing applications for Fortune 500 e-commerce companies

Skills

Languages & Frameworks

JavaScript, Ruby, TypeScript, Go, SQL, HTML/CSS, Node, Express, Sinatra, React, JQuery, Handlebars

Cloud

AWS EC2, ECS, Fargate, DynamoDB, Lambda, HTTP/WebSocket API Gateways, Cloudformation, IAM; Heroku, Digital Ocean Droplet

Other Technologies

Docker, Git/Github, MongoDB, PostgreSQL, Nginx, REST APIs, HTTP, WebSockets

Education

M.B.A., Georgetown University

Washington, DC,

B.A., Political Science & Economics, Tufts University

Medford, MA