JAKE LIVAK
Senior/Lead Full-Stack Developer
13+ Years Experience

With additional professional experience in game development, project management and 2D/3D graphics.

INTRODUCTION

I'm a full-stack engineer with 13+ years of experience across agency, enterprise, and product work. I specialize in TypeScript, React, Node.js, Elixir, and C#, with formal training in both computer science and digital art. I've led and built teams, mentored developers, and worked with a number of Fortune 500 companies. As a developer I'm no stranger to scale, and have built and validated backends that can handle millions of requests per minute (via load balancers, horizontal scaling, and serverless architecture), store hundreds of terabytes of user data (via partitioning, sharding, and replication strategies), and that remain online even with entire region outages.

PROFESSIONAL SKILLS

I've developed and shipped with a wide range of technologies, and have especially strong expertise with...

Frontend Development
Typescript & Javascript
React & React Native
Three.js & Babylon.js
Native Android (Java)
Desktop Apps (C# & Electron)

Backend Development
Node.js & Bun
Elixir w/ Phoenix & Ecto
MSSQL & PostgreSQL
E-commerce (Stripe, PayPal)
Telemetry Tracking/Reporting

Cloud and DevOps
Azure, AWS & GCP
GitHub Actions & CI/CD
Docker & Containerization
Uptime Monitoring & Alerts
Zero-Downtime Deployment

Game Development
Unity & Unreal Engine
Azure PlayFab
Python Scripting
3D Modeling & Texturing
Custom Shaders

Leadership
Project Management
Project Scoping & RFPs
Agile Sprints & Kanban
Technical Leadership
Developer Mentoring

Infrastructure
Horizontal Scaling
Load Balancing
Partitioning & Sharding
Geo-distribution/Replication
Caching Strategies

PAST CLIENTS

I've had extensive experience creating solutions for large enterprise companies, including...

Microsoft   Showtime   TikTok   Netflix   Amazon

EXPERIENCE

Senior Software Engineer @ Inkarnate
2022 - Present

Worked with a globally-distributed remote team developing and maintaining a web-based digital graphics editor with millions of users. Our stack included Typescript with React, MobX, WebGL, and HTML5 APIs (on the frontend) and Elixir, Phoenix, Ecto, Node.js, and PostgreSQL (on the backend). Administered our various distributed backend systems spanning multiple programming languages and cloud providers. Performed various storage and performance optimizations on 300+ terabytes of user data. Implemented AI-assisted code review and documentation workflows (Claude & Copilot). Also had the opportunity to engage with our community online and at events like GenCon.

Lead Web Developer @ Subvrsive
2020 - 2022

Built and led a development team crafting diverse web-based 2D and 3D experiences utilizing TypeScript, React, Three.js/Babylon.js and Node.js. Performed lead tasks such as project scoping and architecting, developer mentoring, and team hiring. Setup and managed performant, fault-tolerant cloud infrastructure in AWS and Azure using geo-replication, geo-distribution, and horizontal-scaling strategies. Streamlined internal 3D art pipeline with custom Autodesk Maya plugins written in Python. Took over 3D artist and project manager responsibilities while understaffed.

Software Developer @ The Garrigan Lyman Group
Contract Unity Developer @ The Garrigan Lyman Group
2019 - 2020

Took over as lead developer of an interactive mobile sales app built with the Unity game engine. Developed and maintained commercial farming tools for the Idaho-based Simplot built with Javascript and Angular. Designed, developed, and shipped web apps using Typescript, React, and Node.js for various enterprise clients with strict security audit requirements.

Software Engineer @ Zenware Inc
2012 - 2019

Developed various desktop applications in C#, web applications with Javascript & Angular, backends with ASP.NET & C#, and Android projects in Java. Performed MSSQL database administration on multi-terabyte sized databases containing sensitive/government data, which included reducing complex 12+ hour SQL queries to run in under 1 minute by utilizing CTEs and other optimization techniques.

Founder @ AESTHETIC.ART
2023 - Present

Founded and run a tabletop gaming accessory business (as a passion project/side hustle) handling the full product lifecycle: from product design, to international manufacturing & logistics, to order fulfillment. I design products and packaging using Maya, ZBrush, & Photoshop, manage a networked 3D printer farm for on-demand production, and maintain our e-commerce infrastructure.

OPEN SOURCE WORKS

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phoenix-websocket
[Link]
Creator and maintainer of a TypeScript library used for interfacing with Elixir backends utilizing Phoenix Channels. This provides various ease-of-use improvements over the stock phoenix library.

Three.js, Babylon.js, pnpm
Contributor of bug fixes and usability improvements to these popular TypeScript libraries.

Unity Engine
Submitted multiple bug fixes for the Unity game engine, which unfortunately weren't added to their official source in a timely fashion. Implemented the fixes manually via C# reflection as a stopgap.

EDUCATION

Bachelor's Degree in Interdisciplinary Professional Studies
(*With Emphasis on Computer Science and Fine Arts*)
Boise State University

3D Environment Arts Program Certificate (2-Year)
CG Master Academy

Database Design Specialist Certification
Certification Partners CIW

LINKS

❖ **linkedin.com/in/jakelivak** ❖ **github.com/jlivak** ❖ **artstation.com/jakelivak** ❖ **jakelivak.com** ❖

PROFESSIONAL WORK PORTFOLIO

Inkarnate Fantasy Map Editor (Ongoing)
Link

A browser-based fantasy and sci-fi map editor with rich image and text editing capabilities, built with HTML5 Canvas, WebGL, React, and Typescript. My largest contribution involved overhauling our entire data schema and implementing real-time saving/updating (Google Docs-style) to replace our legacy data models and manual saving method. This system needed to ensure concurrency via locking and robust conflict-resolution while handling large influxes of our 7+ million users. It also needed to perform any necessary data migrations in an incremental, zero-downtime way. I also...

➤ Assisted with porting our web app to a native desktop app using Electron.
➤ Reduced memory-related browser crashes by over 75% via rigorous performance tuning.
➤ Implemented GDPR/CCPA compliant analytics using a mix of internal telemetry tracking and external tools such as Plausible and Posthog.
➤ Administered our cloud hosting stack of AWS, Azure, Cloudflare, Gigalixir, and Netlify.
➤ Optimized our 20TB+ databases to ensure we can continue to scale 10x without issue.
➤ Implemented proper availability monitoring/alerting and improved our failover strategies.
➤ Identified cloud optimizations to reduce monthly cloud spend by over $15,000.

Undisclosed Multiplayer Web Gaming Project

A web-based multiplayer gaming project utilizing WebSockets and Azure PlayFab for dynamic game server creation and scaling, with a Three.js/React/Typescript frontend, Node.js backend, and C# game servers. I oversaw this project from creation; creating architecture diagrams to hand off to the rest of my team, performing all cloud related setup and management within Azure and PlayFab ($20,000+ monthly spend), performed regular code reviews and progress check-ins, and complied with all our enterprise client's security and up-time requirements. This project was rigorously performance tested to handle an immediate influx of 50,000+ players without issue.

DigiKey 3D Product Showcase
Link

An immersive 3D web experience built with Babylon.js, React, and Typescript allowing users to walk around, explore branded experiences, and discover or purchase products. I managed and architected this project, led a team of internal and outsourced engineers, and also worked with our in-house artists to create a custom 3D art pipeline utilizing Python scripting in Autodesk Maya.

Showtime Shameless TV Finale Live Event Site and 360 Environment
Link

A Webby-nominated live event site featuring a dynamic countdown and time-based page access coinciding with the airing of the Shameless series finale. This site included a live stream with the cast, graphical landing pages, social media integrations, and explorable 3D recreations of sets from the show. This was built with a Three.js/React/Typescript frontend, and an Azure hosted Node.js backend. Our site was performance tested to handle an immediate influx of 250,000+ users and millions of requests per minute.

Vital Farms 360 Video Web Platform
Link

A custom, mobile-friendly, embeddable 360 video player created using Three.js/React/Typescript, as well as a custom CMS backend using a microservice architecture for video uploading, processing, and management built with Node.js, Azure Functions, Azure Media Services, and Docker.

ATDMobile Interactive Tire Sales Mobile App
Link

A B2B tire/wheel sales app built using the Unity game engine (with some platform specific Java/Objective-C code) featuring 3D tire & wheel visualization, which was later ported to React Native.

GuardianRFID Inmate Management System
Link

A nationally deployed inmate management system featuring a native Android application and a .NET server backend with enterprise-scale Sql Server database administration requirements.