

Full-stack engineer with a focus on building massively scalable APIs and multiplayer game development. Possesses deep knowledge of front-end and back-end technologies, database design, data analytics, and cloud infrastructure. Proven track record of delivering complex projects on time both as a team contributor and in leadership roles. Strong interest in applied mathematics, statistics, AI and ML.

Skills

- ★ JavaScript & TypeScript (Node, Express, Websockets, Three.js, React, Vue.js)
- ★ SQL & NoSQL databases (Postgres, MySQL, DynamoDB, MongoDB)
- ★ DevOps, cloud infrastructure & CI/CD (Docker, Kubernetes, AWS, GCP)
- ★ Python (Django, Jupyter Notebooks, ML; PyTorch, TensorFlow, Scikit-learn, NumPy, Pandas)
- ★ Game engines & frameworks (Unity, Phaser, PixiJS, Defold)
- ★ RESTful API and GraphQL / CQRS API development, serverless and monolithic / microservice architectures

Experience

Senior Full-stack Developer, WCBS (February 2025 - Present)

- ★ Tech: AWS (EC2, Lambda, RDS, SQS), Node/TS (Express, Prisma), PHP (Symfony), Vue.js
- ★ Assisted in building a financial management platform for the EdTech industry

Senior Engine Developer, FRVR Games (August 2024 - January 2025)

- ★ Tech: GCP (GKE), Kubernetes, Node/Bun, JS/TS, Three.js, Wasm, Mithril, GraphQL, NATS
- ★ Fixed-term contract as a core engine/optimisation specialist, assisting the team with preparing a Battle Royale variant of FRVR's flagship FPS title (Kruner Royale) for worldwide release
- ★ Optimised serverside and clientside netcode to handle 100+ players per game. Improved bandwidth requirements (~1.5mb/s to 300kb/s) and performance (~45fps to 60+fps) on desktop & mobile devices
- ★ Implemented spatial partitioning (BVH) & voxel traversal for raycasting, reducing the time spent per frame on the server by ~65% and reducing memory footprint by ~50%
- ★ Refactored the game's collision detection and physics code to efficiently handle arbitrary geometry (OBBs and complex meshes) and 20k+ objects per map

Lead Developer, Winkel Games (May 2021 - July 2024)

- ★ Tech: AWS (EBS, EC2, Lambda, RDS, SQS, S3), Node/TS (Express, TypeORM), React, Unity (C#), WebGL, Python (Jupyter), various analytics platforms (Tableau, Looker, Metabase, Redash)
- ★ Led development of back-end and front-end technology for all of Winkel's game projects (Play Daily, Skill Cash, Juump, Swiing!)
- ★ Implementation of all core technologies: highly scalable lobby (500k+ games played per day), skill-based matchmaking using OpenSkill, cheat detection system, event-sourced wallet microservice (integrated with Stripe and Paypal, 100k+ transactions per day)
- ★ Administration system written in React, allowing the LiveOps team to author content and moderate the game
- ★ Polytaire: a framework for rapidly prototyping and automatically solving card games, including a heuristic-based solver for generating deterministic and guaranteed-solvable games
- ★ Built and managed the company's cloud infrastructure (scaling to 100+ requests per minute) & CI pipeline using Github Actions.
- ★ Scrum Master; conducted agile/scrum events, project management (Jira), code reviews, and mentoring
- ★ Data analytics: cloud platforms (Mixpanel, GamesAnalytics, Tableau) and self-hosted platforms (Looker, Metabase, Redash). Extensive use of Jupyter Notebooks for analysis of user archetypes and for running economy simulations
- ★ Assisted the front-end team (Unity) with client-side implementation of game-logic & best practices for deterministic gameplay

Senior Back-end Developer, CarePlanner (June 2020 - April 2021)

- ★ Tech: AWS (EC2, Lambda, RDS, SQS), Python (Django), CircleCI
- ★ Assisted with building a medication planning API with advanced scheduling capabilities
- ★ Introduced behaviour-driven development principles and feature testing with +90% code coverage. Parallelized the test runner using EC2 auto scaling groups, reducing time to run all scenarios (10k+) from 30 minutes to ~7 minutes
- ★ Extended testing frameworks with automatic response validation against OpenAPI specifications, and developed generative Markov Chain fuzz-testing tools for generating realistic sequences of requests and payloads

Tech Lead, Usay Compare (January 2018 - April 2020)

- ★ Tech: GCP, Docker, PHP (Laravel), MySQL, Node/JS (Express, AdonisJS, Loopback), GraphQL, React, Vue.js
- ★ Developed and released a commercial PMI/LI sales application (4C Platform) used by 100+ IFA organizations
- ★ Tech Lead on 4C Plus, a multi-tenant insurance sales platform with sales journey builder and lead acquisition / dispositioning systems
- ★ Project management; gathered requirements from stakeholders, wrote specifications and design documents, mentored the team
- ★ Developed the React front-end using Storybook, Material UI, GraphQL/Apollo Server

Founder, jsonpad.io (April 2014 - Present)

- ★ Tech: AWS (EC2, RDS, SQS, S3), Postgres, Node/TS (Express, Prisma), React, OpenAI GPT4o API, Google Gemini API, WebSockets
- ★ Built, launched and marketed a SaaS/PaaS JSON storage platform from the ground-up (10k+ users, ~100 DAU)