

Joshua Nelson

Software Engineer

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Profile

Experienced Software Engineer in small, fast-moving organizations. Consistently delivered new product features and APIs while increasing performance up to 750%. Co-creator of PlinkoJS, a real-time, multiplayer browser game.

Professional Experience

05/2020 – present **Software Engineer, KollaCode**

Remote

- Rearchitected an interactive ETL application that handles 100,000 records at a time, utilized web workers and asynchronous best practices to offload computationally intensive operations, resulting in 15 second reduction between processing steps
- Built browser and desktop application featuring online-offline syncing capability written using Node, React, and Electron, with a RxDB database

12/2018 – 03/2020 **Software Engineer, Opal**

Portland, OR

- Full-stack engineer on a monolithic application written in Ruby on Rails, Node, and Typescript React with Redux, with a PostgreSQL database
- Implemented and extended JSON:API-compliant Rail's endpoints, moving existing business logic into maintainable, conventional patterns
- Built data-intensive views in React as well as refactored application-wide filtering architecture, eliminating several longstanding bugs and component architectural inconsistencies
- Created internal design system, enforcing consistent visual design and adhering to WCAG 2.1

05/2018 – 11/2018 **Software Engineer, PlinkoJS (www.plinkojs.com)**

Remote

- Co-created an open-source, multiplayer, real-time, browser-based physics game using Node, React, and WebSockets
- Featured a client-server architecture to synchronize game state, generated by a physics engine, to four clients in real-time, while facilitating live-action gameplay
- Researched game state synchronization models and determined the best fit based on the tradeoffs each model had on gameplay and network architecture
- Implemented strategies around binary data serialization and compression, latency estimation, client-side prediction, network protocols, and snapshot buffering and interpolation to simulate a lag-free, real-time user experience
- PlinkoJS White Paper: <http://plinkojs.com/about>

09/2016 – 04/2018 **Manager, Marketing and Business Development Strategy,**

Albany, OR

Linn-Benton Community College

- Brought in software solutions that saved the department \$20,000 in annual expenses
- Built websites for unique program offerings, increasing accessibility of services

Education

2008 – 2012

B.Sc. Marketing, Management Leadership, Portland State University