

# JD Lien

Senior Full-Stack Software Engineer  
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## SUMMARY

Senior software engineer and technical writer with 10+ years of experience in full-stack development using PHP, Laravel, TypeScript, and more. Successfully led team to deliver enterprise applications and modernize large, legacy systems. Demonstrated ability to translate complex technical concepts into accessible content, consistently improving documentation quality and developer experience. Adept at collaborating to ensure accurate, up-to-date, and accessible documentation that drives product adoption and user satisfaction.

## EXPERIENCE

### Freelance Developer / Technical Writer

Aug 2022 – Present

#### FullSpec Systems (Remote)

- Created cloud backend system to rapidly ingest GTFS transit datasets into MySQL & Postgres DBs.
- Built JSON:API-compatible API on top of Laravel to serve transit data to web and mobile apps.
- Designed public library registration system using Docker for quick deployment and upgrades.
- Wrote technical articles for PlanetScale such as [Upgrading MySQL to v8](#) and [Using SQL Joins](#).
- Wrote technical documentation for Readysset focused on implementing effective database caching in Laravel using AWS.
- Created and published [NPM Package](#) for frontend validation in TypeScript with 100% test coverage.

#### LANGUAGES

PHP / Laravel / Livewire / TypeScript / React / JavaScript / TailwindCSS / Bash

#### TECHNOLOGIES

MySQL / Postgres / Docker / AWS RDS / JSON:API / Git / nginx / Vitest / Jest

### Lead Web Developer

Nov 2019 – Apr 2024

#### Edmonton Public Library (Edmonton, Canada/Remote)

- Conceived and led a successful long-term project to migrate all existing applications to Laravel and Vue.js from a legacy ColdFusion intranet with 60+ apps, enhancing robustness, user experience, and maintainability.
- Developed a system using database introspection to streamline CRUD interface creation across 50+ applications, reducing development time from weeks to hours for many apps, significantly lowering developer maintenance overhead, and centralizing code in a robust, well-tested library.
- Established formal development practices including local dev environments, staging servers, dev databases, and rigorous version control practices using GitHub, significantly reducing mistakes on production deployments.
- Led a critical refactoring initiative of a major ColdFusion codebase, modernizing and simplifying over 3,000 files into 800, enhancing code quality with reusable components and reduced complexity.
- Mentored 3 junior developers through curated training materials, hosting training sessions, and pairing, fostering collaboration and enhancing skills across the team.
- Dramatically improved security by implementing OAuth 2 and MFA, extensive automated testing, rewriting DB queries with strict parameter-binding, reducing total security incidents by 90%.

#### LANGUAGES

PHP / Laravel / Vue.js / TypeScript / ColdFusion / Tailwind / PowerShell

#### TECHNOLOGIES

MySQL / SQL Server / Azure / Git / Apache / IIS / Pest / PHPUnit / Jasmine

## Web Developer

Apr 2012 – Nov 2019

### Edmonton Public Library (Edmonton, Canada)

- Won Innovation Award for development and successful launch of Makerspace Booking System by working closely with staff to collect the most significant user pain points. Reduced customer booking complaints and cut staff booking time by 70%.
- Initiated and developed an error management system to log user-reported issues, collect detailed feedback, and notify developers, enabling proactive resolution and improved system reliability.
- Developed online registration system to automate customer account creation for 50,000+ customers, reducing staff time spent on manual account creation, while mitigating fraudulent account activity.
- Built CMS, form builder, APIs, and 30+ other apps in response to organizational needs for 900 staff members using responsive and accessible design patterns.
- Demonstrated exceptional responsiveness by addressing issue reports and enhancement requests, often delivering solutions or upgrades within an hour on the same day.
- Optimized SQL Server database design and tuned queries, increasing production database performance for slow queries up to 10x.

#### LANGUAGES

PHP / ColdFusion / ColdBox / jQuery / JavaScript / CSS / Sass / PowerShell

#### TECHNOLOGIES

MySQL / SQL Server / Git / Apache / IIS / TestBox

## Freelance Developer / Systems Administrator

Sep 2011 – Apr 2012

### FullSpec Systems (Edmonton, Canada/Remote)

- Developed web applications for small businesses.
- Created and administered WordPress and Drupal sites.
- Managed network infrastructure, DNS, and email systems.
- Administered Linux and Windows servers and workstations.

## Technical Copywriter

Jan 2010 – Sep 2011

### Opera Software (Oslo, Norway)

- Wrote content for Opera blogs about web standards and browsers.
- Collaborated with developers and product team to write documentation.
- Planned and wrote marketing copy for 18 product launches and major updates.
- Won international blogging competition, with posts selected from over 300 submissions.

## EDUCATION

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### Computing & Information Systems

2015 – 2021

#### Athabasca University

Graduated with distinction. Academic focus on web development and business.

### Business Analyst Certificate

2007 – 2008

#### Northern Alberta Institute of Technology

Developed requirements gathering, project documentation, and quality assurance skills.

### Cisco Certified Network Associate (CCNA)

2007

Certified in networking fundamentals, routing, switching, and Cisco IOS administration.

# PROJECTS

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## **Validator NPM Package**

To improve the UX of forms, I created an NPM package, [@jdlien/validator on Github](#), that makes it easy to add powerful frontend validation to forms. This lets users do things like type anything resembling a date and have it magically reformatted the way the developer wants. It has no dependencies, is thoroughly tested (100% code coverage with Vitest), is well-documented, and is easy to use for developers and users alike.

## **WebArtisan.info Tech Blog**

A technical blog I run has articles about PHP, Tailwind, JavaScript, CSS and software careers. It won an award in a Hashnode Blogging Competition. Notable articles include:

- [The Pros and Cons of Tailwind CSS](#)
- [What is Dependency Injection?](#)
- [How I Made My '80s Retro-Style HomePage](#)

## **Writing for [php\[architect\]](#) Magazine**

I occasionally write for a magazine focused on PHP. My article about using attributes in PHP 8+ was [published in the June 2024 issue](#).

## **MEGA World (Multiplayer Educational Game)**

A Laravel & Livewire-based video game with a complex MySQL database for academic research into learning via gamification in collaboration with Athabasca University. I also created all the graphics assets in WebP and SVG using Photoshop and Illustrator.

## **FunctionalColor Keyboard Plugin**

For mechanical keyboards using Kaleidoscope firmware, I created [a plugin to change the color of keys](#) based on type of key on the active layer. Done in C++ for Arduino using lots of tricky compiler operation to achieve extreme memory efficiency.