Jonathan Allen

Software Engineering

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ylixir
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Objective

I am looking for a company who prefers engineers to rock stars or ninjas. I love working as part of a team. I think agile is wonderful and like to finish my well planned work on schedule. I do not glory working in the dark...literally or figuratively.

Skills

Expertise	C/C++, JavaScript, TypeScript, Python, git, Linux, Node.js, SQL, NoSQL, REST
Current Focus	Elm, Lisp, Cloud DevOps, Arduino

Related Experience

2022 – Present **Engineering Manager**, *iCIMS*, Remote

Manage Professional Development Team

- Create and maintain a global video hosting platform.
- Coordinate with design and product managers.
- Mentor and lead other team members.
- Constrain project scopes to ensure sustainability.
- Manage hyper scalable multi-region infrastructure.
- Hybrid management/individual contributor role

2020 – 2022 **Principal Software Engineer**, *iCIMS (through Altrulabs acquisition)*, New York, NY

Professional Software Development

2019 – 2020 **Principal Software Engineer**, *Altrulabs*, New York, NY

Professional Software Development

2016 – 2019 **Senior Software Developer**, *RealTruck Inc.*, Fargo, ND

Professional Software Development

- Engineer enterprise systems for failure and recovery.
- Mentor, and lead while balancing technical, quarterly and political constraints.
- Apply experience gained from open source development to proprietary systems.
- Experience with codebases that are several hundreds of thousands of lines of code.
- Broad background allows me to manage seemingly intractable issues.

2014 – 2015 **Teaching Assistant**, *North Dakota State University*, Fargo, ND

Precalculus level algebra

- Prepare and present classroom material.
- Provide one-on-one mentoring.
- Objectively assess and provide feedback for work: homework, quizzes, exams, etc.

2004 – 2013 **Food Service management**

Manager at McDonalds and Papa John's.

- Inventory: usage, loss, ordering, etc.
- Employees: hiring, scheduling, training, discipline, etc.
- Money: basic accounting, cash management, etc.

2002 – 2003 **Programmer**, *North Dakota Center for Persons with Disabilities*, Minot, ND

Miscellaneous programming tasks

- Diverse technology stacks consisting of C++, Win32 API, MFC, ASP, MSSQL, Oracle.
- Create and maintain desktop and web applications with a focus on accessibility software.

1985 – present **Open Source and Hobby Software Developer**

Decades of software development experience.

- Breadth of experience crossing many paradigms and technologies.
- Ability to quickly learn and become adept at any ”new” technology.
- Ability to evaluate best fit technologies, regardless of political or quarterly constraints.
- Evaluating long term value of technical decisions.

References

Jeffrey Barron **Software Engineering Manager**, ✉ *jeffrey.a.barron@icloud.com*

Jake Oster **Senior Software Engineer**, ✉ *jacoboster30@hotmail.com*

Education

2015 **North Dakota State University**, *Fargo, ND*

Bachelor of Arts in Mathematics

- Elective credits in partial differential equations, combinatorics, graph theory and real analysis.
- Capstone work involving numerical semigroups, Markov bases, and extensions of the natural numbers.

2001-2005 **Minot State University**, *Minot, ND*

Computer Science, Mathematics, Physics coursework

Technical Highlights

2022 **Multiregion infrastructure scaling**, `https://www.icims.com/products/talent-cloud-platform/video-studio/`

Provide internationally scaleable backup infrastructure that is transparent to the end user, but which respects political boundaries.

- Languages: Ruby, Cloudformation, Terraform
- Technologies: Fargate, Docker, Lambda, Circle-CI, Cloudfront

2021 **Video editor**, `https://www.icims.com/products/talent-cloud-platform/video-studio/`

Simple easy to use in browser video editing.

- Languages: Typescript, Ruby
- Technologies: Angular, Rails, FFmpeg, ImageMagick

2020 **Video transcoding pipeline**, `https://www.icims.com/products/talent-cloud-platform/video-studio/`

Scaleable, fault tolerant, asynchronous video transcoding pipeline.

- Languages: Ruby
- Technologies: Rails, FFmpeg, ImageMagick

2019 **Media Metadata Cache**, `https://realtruck.com`

Microservice to provide cached metadata to website frontend.

- Languages: Typescript, Node.js
- Technologies: AWS, DynamoDB, Lambda Serverless, Microservices

2019 **Children’s math practice**, `https://ylixir.io/math-quiz`

A simple flashcard like system to help a child memorize multiplication tables.

- Languages: Elm, ElmUI
- Technologies: Functional programming

2019 **Parser Combinator Library**, `https://ylixir.io/phap`

Implement parsing combinator technology, making it available to the PHP ecosystem.

- Languages: PHP, Haskell
- Technologies: Functional programming

2018 **Microservices product management backend**, `https://realtruck.com`

Redesign and implement large portions of a product information pipeline responsible for transforming and routing routing many millions of rows of data to tens of systems. Continue to maintain system over time. Uses multiple languages, and infrastructure systems in a microservices architecture.

- Languages: Python, PHP, Go
- Technologies: AWS, Circle-CI, Nix, Psalm, Bash, Make, Ansible

2018 **Shopping Cart**, `https://realtruck.com`

Helped to create the front-end for a shopping cart and checkout experience.

- Languages: JavaScript, TypeScript
- Technologies: Vue.js, Webpack, Rollup, Raven.js, Stylus

2017 **Tomato Keyboard Kit**, `https://ylixir.github.io/byatk`

Managed production of a custom designed keyboard. Created documentation, provided firmware.

- Languages: C
- Technologies: Embedded software, Gerber, electronics, Atmel AVR, cross compiling

2017 **Sales tax system**, `https://realtruck.com`

Legacy platform unable to conform to legal requirements. Provided custom SDK, allowing integration with modern services, allowing automated legal compliance.

- Languages: PHP
- Technologies: JSON, HTTPS, REST, fault injection

2017 **Implement gift card system**, `https://realtruck.com`

- Languages: PHP
- Technologies: JSON, HTTPS, REST, discriminated unions

2016 **Complete redesign of ad feed system**, `https://realtruck.com`

Legacy system described as "the worst part of our codebase". Too fragile to be safely modified, yet bugs routinely caused losses of tens of thousands of dollars. Modernized system while balancing time and priorities of other tasks. Described by management as a "master class in incremental improvement".

- Languages: PHP
- Technologies: Builders, dependency injection, composition, etc.

2016 **yotp**, `https://www.github.com/ylixir/yotp`

Command line utility for generating one time passwords. Commonly called two factor authentication, this code could be used by a client or server.

- Languages: C#
- Technologies: .net core, Mono, .NET, HOTP, TOTP, SHA1

2015 **diceware**, `https://www.github.com/ylixir/diceware`

Utility for generating passphrases. These are very secure passwords, which are easy to remember.

- Languages: Lua
- Technologies: diceware, /dev/urandom

2015 **frobmask**, `https://www.github.com/ylixir/frobmask`

Automates computation of Frobenius numbers. Useful to mathematicians studying numerical semigroups.

- Languages: Lua 5.3
- Technologies: Abstract Algebra

2015 **Lerna**, `https://www.github.com/ylixir/lerna`

Web browser with lua scripting support.

- Languages: Vala, Lua
- Technologies: GTK3, WebKit, liblua

2013 **ArchNexus**, `https://www.github.com/archnexus`

GNU Linux distribution for tablet computers.

- Languages: sh, C
- Technologies: Linux, gcc, pacman

2010 – 2011 **Yaed**, `https://www.github.com/ylixir/yaed`

Cross platform text editor. This was a successful excercise in documentation first, code second.

- Languages: C
- Technologies: GTK-2, GTK-3, GtkSourceView

2008 – 2011 **yCurses**, `https://www.github.com/ylixir/ycurses`

Ncurses bindings for the D programming language.

- Languages: C, D
- Technologies: nCurses