

**Adam Bourg**

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## Summary

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I'm an expert in many web technologies and frameworks. I've been working with ReactJS and NodeJS for more than 6 years; collectively I have more than 10 years of professional development experience. At my most recent role, I was a freelance consultant working for PwC. Where I managed teams of over a dozen developers; I managed the budgets, architected the solutions and worked alongside development racing to meet important deadlines. You will find me committed, hard working and highly adaptable. I'm an expert in ReactJS, NodeJS, VueJS, Postgres, HTML, CSS, Javascript and have limited Java Spring development. I'm a hands on, development focused leader and contributor. I'm open to both leadership (hands on) and contributor technical roles.

## Professional Experience

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### **Software Engineering, DevOps & Architecture Consultant**

March 2018 - Present

Stacked Development (Self employed) -- Denver, Colorado (Remote worker)

### **Software Engineer Team Lead for client PwC (December 2021 - Present)**

- Building a new backend in NodeJS with GraphQL and Typescript for a new project within PwC
- Managing an onshore US team of 12 developers

### **Application Security Engineer for client PwC (November 2020 - December 2021)**

- Worked with pen testers, project managers and software engineering teams to secure applications
- Brought over a dozen legacy projects up to date in libraries, frameworks, and secured over 1000 vulnerabilities within existing applications
- Currently working as the a compliance engineer responsible to bring over 60 applications into compliance with PwC security standards with respect to software packages (npm), XSS Injection and SQL injection issues

### **Architect / Software Engineer Team Lead for client PwC (March 2018 - Present)**

#### Current Project: Build a Highly Available system

- Currently in the design phase of taking our existing architecture and scaling it out to a new geo distributed highly available system with 99.999% guaranteed up time
- The project involves working with PwC partners, client, app dev team and the DevOps group, my role is to take the current need, translate that into a high level system plan then work with other members of the DevOps team to build out the system (hands on)

#### Project: Technology Risk Framework

- Designed & Architected a compliance tool called Technology Risk Framework to help streamline the way PwC manages software compliance. Working with IFS we took an internal process consisting of Google Sheets and built a case management tool.
- Through building the compliance tool, we streamlined the process of evaluating risk for over half a billion dollars of software being developed. The application has over 5000 daily users with over 1000 active software products. This tool represents efforts to ensure legal and brand compliance by every department and partner

firm in the organization affecting over 168 member firms worldwide building software for clients and internal use

- I built the tool by leading 10 engineers (most of whom were very Junior) leveraging NodeJS, Postgres and VueJS
- I trained and mentored offshore teams in the latest software development languages and frameworks including NodeJS, ReactJS and VueJS
- I managed people in multiple time zones including different US time zones, China and India for effective delivery
- I successfully managed scope, software design, project timeline, client relationship and budget of nearly \$300,000 over the course of a year

#### Project: Third Party Tracker

- Built a portal to manage and investigate a major automobile company vendors and dealers in Brazil & Italy giving our client the ability to investigate their compliance risk dealing with over 800 suppliers, vendors and dealers this software directly affects the firm's ability to conduct over \$500,000,000 annually in gross sells
- For the automobile project, I managed 2 teams, 9 based in Bangalore and 3 others dispersed across the USA all while remaining hands on writing NodeJS & React code

#### Project: Risk Command

- Joined a Java Development team as a Senior FullStack Developer; within 2 weeks was fully integrated into the team building roboast APIs leveraging Spring and Maven; tool chains I have never worked with; Delivered several critical path features to ensure our team met client delivery on time

#### Other projects and roles at PwC

- I've worked on over a dozen different client projects and internal tools at PwC. From advisory type roles where I was consulting with an implementation team to help them deliver versions of Third Party Tracker or DMH to end clients, to senior technical roles contributing business critical technical needs such as expertise on encryption, data security, authorization or specific PwC technical processes or frameworks. Other roles have been a technical contributor, to a firefighter putting out production outages.
- I've also been an active maintainer on our internal tooling, adding new features, reducing database lag time, reducing overhead and increasing system stability through upgrades and fixing significant gaps in tech debt

#### **Software Engineer Team Lead (Contract)**

October 2016 - February 2018

SlingTV -- Denver, Colorado

- Designed and built an internal Ruby Gem to encrypt all PCI customer data using AES 256
- Implemented integration with Gitlab Pipelines for automated deployments to S3 and for automated CI/CD
- Frequently presented for lunch and learn on topics including Ruby performance, security and code quality
- Led a team of 12 engineers to rebuild the account portal using React JS with Redux talking to newly built Java Spring Microservices. Deployed this application to serve 2.2 million customers of SlingTV
- Mentored 3 junior team members by pairing with them on technical tasks, coaching them in their careers and helping them develop as professional software engineers

#### **Senior Software Engineer (Contract)**

April 2016 - October 2016

Active Junky -- Denver, Colorado

- Reduced SQL queries from Active Record from over 2000 per page down to under 100 with only about 200 lines of code modified. Used the gems: active\_record\_query\_trace, rack-mini-profiler, flamegraph, bullet to track down and identify issues where the code is really slow and inefficient. I determined where Active Record did not make sense and replaced it with custom SQL queries for calculations and data formatting.

- Used Apache benchmark with gems mentioned above to identify and eliminate 100 N+1 queries on the homepage to 5 queries to load all the homepage data in an average of 1 second under constant load.
- Used New Relic to determine we were wasting 20% response time over a month by waiting for API requests to complete with an average page load time of 16 seconds. Using Ruby and Resque I designed an automated worker process that is threadsafe to write the objects to memcache and ensure that the caches are always warmed before a user visits the page
- Took the backend Rspec test suite from 70% to 85% by using code coverage tools and determining places where we were using weak tests

### **Senior Software Engineer (Contract)**

September 2014 - April 2016

UnitedHealth Group -- Optum Technology, Broomfield, Colorado

- Built a HIPAA compliant call center application in javascript, NodeJS and Backbone JS for all Kaiser Permanente agents which generated \$50 million for UHG as part of their next generation call center application. It was used for open enrollment for Kaiser for 2015, resulting in over \$100 million in sales.
- The Kaiser application is a web GUI that runs on desktop and iPad browsers and interacts with a Node JS service layer built to communicate with legacy systems written in SOAP and Java.
- Designed Version 2 of the call center application to support onboarding of over a dozen clients to support a multi-tenant application, leveraging a reusable module pattern in Javascript and backbone
- Built the new member portal in Ember JS for Harken Health based in Georgia. Was responsible for implementing the User profile and Email pages.
- Designed and implemented the HIPAA compliant encryption system used for storing PHI and PII. I designed a reusable Gem for the company that allows developers to determine what fields should be encrypted using a Rails model attribute. Ex: attr\_encrypt :name, :social\_security\_number
- Implemented Automated CI using Jenkins for automated builds integrated into Gitlab.
- Built a HIPAA compliant ETL application in Ruby on Rails 4.0 to load the medical history of 10 million patients to calculate anticipated health costs for the next year.
- Designed and built a HIPAA REST API in Ruby on Rails 4.0 using Grape and swagger to interface to a high level REST service layer to help millions consumers figure out what is the best type of health insurance based on their needs and usage.
- At United I had extensive use of Javascript, Coffeescript, Ruby, Ruby on Rails, Node JS, Backbone and Ember JS

### **Software Engineer**

March 2013 - September 2014

Gloo, Boulder, Colorado

- Built a Javascript single page application using Twitter Flight and jQuery to communicate with a REST API.
- Built a HIPAA compliant REST API in Rails 3.2 using controllers and Jbuilder that delivers JSON content to thousands of Android and IOS clients. Automated documentation through the use of Swagger.
- Built a customizable dashboard in Angular that allowed users to change what content they could see on the home page.

### **Web Developer (Contract)**

March 2012 - March 2013

U.S. Department of Agriculture - APHIS, Fort Collins, Colorado

- Led a team of developers and designers to develop a platform and digitize scientific data relating to specific pests and the damage they cause to specific commodities.
- Collaborated with the agricultural pest survey to create a web-based search tool in an MVC framework for PHP Yii, that serves 25 nations worldwide.
- Built an automated deployment process using Ruby to move code from staging to production, automated backups and system configuration / deployment.

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## Web Developer

October 2010 - March 2012

Colorado State University Recreation Center, Fort Collins, Colorado

- Built an online employment application using Javascript and ColdFusion to receive 1000 applications annually and reduce paper waste.
- Built an online application using ColdFusion to track over 200 employee medical certifications to ensure legal compliance.
- Managed the recreation center website which received over 400,000 visitors annually.
- Designed and built a new mobile friendly website using responsive design, Javascript and CSS media queries that allowed students to see when the facility was open and different services were available in real time from their mobile and desktop devices.

## Lead Web Developer / Co-Founder

June 2009 - June 2011

NextCoast, Lafayette, Colorado

- Developed and designed marketing sites and print materials for various products and services.
- Designed and developed the new UX for a custom community platform using Javascript, jQuery and PHP Smarty Templates.

## Education

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Colorado State University

Bachelor of Science in Applied Computing Technology (Degree earned)

## Technological Competencies

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Expert:

NodeJs, Javascript, HTML, CSS, SQL, React, Redux, ExpressJS, JSON, HTTP, DNS, REST, API development

Advanced:

SQL, Postgres, ESI, Jest, Rails, Ruby, Mac OS, Linux, FastifyJS, OWASP top 10, XML, Veracode, jQuery, git, github, bash, networking

Fundamentals:

Typescript, GraphQL, React Native, Java, Maven, Azure, AWS, nginx, graphQL, C++

## Volunteer Experience

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### Software Engineering Instructor

August 2021 - Present

Compass Montessori Highschool, Golden, Colorado

- Teaching 10 highschool students the principles of modern web development leveraging HTML, CSS, Javascript and React.