

# Deyon Washington

### POLYGLOT SENIOR SOFTWARE ENGINEER, DEVOPS, SRE





linkedin.com/in/wilmoore



winnersonly@realpolyglot.com

Hi, my name is Deyon Samuel Washington. I am a nigerian-american software engineer. I've been around computers for a long time. I was good with computers long before I was even decent at programming; which is still up for debate. I am an athlete first. I dabble in music, writing, entrepreneuership, and mentorship.

# PROGRAMMING LANGUAGES Languages I've shipped to production, refactored to another language, authored an open-source library or framework for. JAVASCRIPT (V8/NODE.JS, BROWSER/DOM) JS COMPILED (TYPESCRIPT, BABEL, COFFEESCRIPT) PYTHON RUST \* ERLANG / ELIXIR PHP RUBY KOTLIN \*

DATABASES

**GO** \*

JAVA \*

REGEX, AWK, SED

Databases I've deployed and/or managed in production scenarios, or I am actively learning.

MARKUP / STYLE (HTML/5, CSS/3, SASS, LESS, JSX)

SQL (DDL/DQL/DML, SPROCS, TRIGGERS, VIEWS)

SHELL SCRIPTING (SH, BASH, ZSH, FISH)

RDBMS (POSTGRESQL, MYSQL, SQL SERVER, ORACLE)

NOSQL (DYNAMODB, REDIS, MONGODB)

GRAPH (NEO4J) \*

SEARCH (ELASTICSEARCH)

**WORK EXPERIENCE** 

My contract and direct hire experiences with detailed depictions of notable projects I've delivered and in some cases, the reasons behind the tech decisions.

Senior devOps Engineer

(CONTRACT) APR 2019 - MAY 2020

MapQuest (Verizon Location Services) - Denver, CO (40% REMOTE)

I work with data scientists, data engineers, and software engineers to automate and secure instance provisioning, data ingestion pipelines and machine learning workloads on cloud infrastructure.

Setup secure (SFTP) file exchange between data science team and third party data vendors.

CloudFormation, Ansible, Packer, and Jenkins to automate infrastructure provisioning for data science related workloads. #IAC

Replaced data science manual data pipeline with a state machine (AWS Step Functions) based pipeline including integration with AWS Lambda and AWS SSM. #ETL

Kubernetes (K8s) documentation, training, and configuration.

RDS PostgreSQL to Aurora migration. #DATABASE #SRE

Wrote a guide and hosted a primer on Provisioning GitLab in AWS. #TRAINING, #MENTORING, #GITLAB

Senior Full-Stack Software Engineer, devOps, SRE

(CONTRACT) APR 2018 - FEB 2019

Nordstrom - Denver, CO (40% REMOTE)

Designed and implemented a near real-time messaging system with message fanout arriving via SSE. SSE (EventSource) was choosen over Websockets as my experiments and research revealed that SSE is superior in simplicity of debugging, testing, and deployment over Websockets, especially when client-to-API two-way messaging is not needed. Deployment is automated via Terraform and CloudFormation. The RESTful Swagger API (OpenAPI) written in YAML format is fronted by AWS API Gateway and proxies to AWS Lambda which persists messages to DynamoDB for long-term storage, which subsequently emits an event to a DynamoDB Stream and is picked up by an AWS Lambda function which produces to a Kafka topic. The Kafka topic is watched by a Node.js worker process and eventually fanned out to clients via SSE. #APIDESIGN, #BACKEND, #DEVOPS

Designed and implemented an Elasticsearch schema and cluster for a search/filtering strategy which replaced an existing Redis cluster which was previously merging results in-flight which was less than efficient and not very flexible in terms of agility or surviving change. The Elasticsearch cluster was deployed in AWS on EC2 instances. I crafted and documented several Elasticsearch queries per the team's requirements as well as delivered performance metrics via Artillery-based load testing. Integrated a simple Elasticsearch HTTP client along with the queries into an existing Node.js/TypeScript API (not originally maintained by me or my main team – helped another team out with this implementation). #SEARCH

Contributed various production features and enhancements to a Node.js Apollo GraphQL API deployed to AWS ElasticBeanstalk fronted by an Nginx load balancer in a VPC. I increased response throughput by +3x (at least) by way of adding database indices and pagination in hot portions of the source. The performance enhancment was verified with pre and post load testing with Artillery. Wrote custom express middleware as a provider for mocking the calls to the Node.js GraphQL API for Cypress.io testing a React front-end application. #DB, #SCHEMA, #DEVOPS, #BACKEND, #AWS

Authored sections of a Docker/Kubernetes deployment tutorial. Authored an incident response guide: a guide for on-call SREs which included examples of previous incident responses along with screenshots. Built dashboards, monitors and alerts in Datadog and Kibana, with integration to PagerDuty and automated with terraform. #DOCUMENTATION, #DEVOPS, #SRE

### Senior Full-Stack Software Engineer

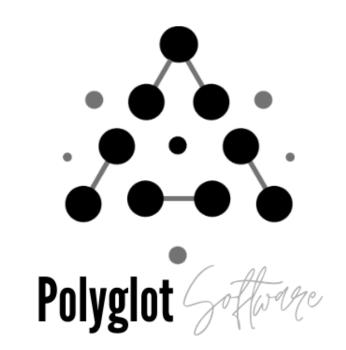
(CONTRACT) OCT 2017 - MAR 2018

**Charter Communications - Greenwood Village, CO** 

Designed and implemented a Node.js API with the IBM/StrongLoop Loopback API framework. API was consumed by a Vue.js single-page-application. Developed custom Loopback middleware and mixins for uploading and persisting attachments in base64 format. #API, #ARCHITECTURE

Using raw SQL DDL, designed and created MySQL database schemas to support new features and enhancments in the API. #SQL, #DDL, #MYSQL

Authored a new developer onboarding guide which covered getting started with contributing to the project, getting around the company's campus, and how to setup the VPN. #DOCUMENTATION



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https://git.io/Jk3dq



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I love open source software. Without it, I would not have been able to re-invent myself so many times within this industry. I started with desktop publishing and type setting, on huge Apple Desktops at Kinkos, now, FedEx Office. What I loved about that job was being able to debug issues with copiers, printers, desktop computers, laptops gave me an appreciation for breadth.

# **CLOUD TECHNOLOGIES**

Technologies that I've worked with in the cloud from the perspective of architecture as well as implementation.

COMPUTE (AWS EC2/ELASTICBEANSTALK, HEROKU)

FUNCTIONS (AWS LAMBDA, SERVERLESS FRAMEWORK)

**NOSQL (AWS DYNAMODB, ELASTICACHE)** 

RDBMS (AWS RDS POSTGRESQL & MYSQL)

STORAGE (AWS S3, RACKSPACE CLOUD FILES)

QUEUE (AWS SQS, RABBITMQ)

MESSAGING (AWS SNS)

WORKFLOW (AWS STEP FUNCTIONS)

IAC (ANSIBLE, CLOUDFORMATION, PACKER)

LOAD BALANCING (AWS ELB)

DNS (AWS ROUTE 53)

CDN (AWS CLOUDFRONT)

MONITORING (AWS CLOUDWATCH, DATADOG, KIBANA)

STREAM (AWS KINESIS, KAFKA)

NETWORK (AWS VPC, SECURITY GROUPS)

### **WEB SERVICES**

Web service (or micro-service) technologies in which I've implemented the producing side (the service itself) and/or a consuming client.

REST & RESOURCE-BASED SERVICES (OPENAPI/SWAGGER)

GRAPHQL (APOLLO-BASED & VANILLA NO-FRAMEWORK)

SOAP (CLIENTS)

# WORK EXPERIENCE

My contract and direct hire experiences with detailed depictions of notable projects I've delivered and in some cases, the reasons behind the tech decisions.

## Senior Full-Stack Software Engineer

(CONTRACT) FEB 2016 - SEP 2017

Shutterstock - Denver, CO (80% REMOTE)

[API ARCHITECTURE + IMPLEMENTATION, DB SCHEMA DESIGN, DB TUNING] Maintained and refactored an e-commerce Node.js API on top of the express framework backed by a MySQL database using test-driven development (TDD). Implemented a currency exchange API with Ruby and the Sinatra framework backed by a MySQL database using test-driven development (TDD).

Contributed to **Node.js orchestration APIs** and built JavaScript **API clients** using test-driven development (**TDD**), including **npm packaging** and artifact release into a **private npm registry**. Evolved the **schema** of a MySQL database through features and enhancements through **DDL** and **DML SQL change scripts**. Introduced a **message queuing** strategy through use of the **RabbitMQ** message broker. Authored design docs, developer guides, and **architecture diagrams** as well as facilitated architecture reviews.

### **Senior Full-Stack Software Engineer**

(CONTRACT) MAY 2015 - FEB 2016

Aetna (formerly iTriage) - Denver, CO (80% REMOTE)

[API, BACKEND, DEVOPS] Implemented and deployed Swagger APIs with Node.js, Hapi, and Docker. Contributed to analytics client libraries in JavaScript and Objective-C. Contributed to a Ruby/Sinatra RESTful API. Contributed to an analytics platform built on top of AWS Redshift. StatsD instrumentation, e2e testing with WebdriverIO/Selenium and Elasticsearch R&D.

[**DEVELOPER TOOLS**] Built reusable project **boilerplates** for **scaffolding** backend **APIs** including documentation with consideration for developer experience (**DX**).

[FRONT-END] Built a secure message center as an AngularJS single-page-application (SPA) so users could login to view sensitive messages from their health provider in a modern user interface.

### Senior Full-Stack Software Engineer

(CONTRACT) AUG 2014 - MAY 2015

Welltok - Denver, CO

[API ARCHITECTURE + IMPLEMENTATION, BACKEND, DEVOPS] Designed and implemented Several micro-service APIs with Node.js and Express which powered the core platform for CafeWell Concierge. Concierge which was comprised of a native mobile application for health care benefits recipients and a web application for administration. APIs were deployed via **Docker** to **AWS ElasticBeanstalk** with some assets being deployed to **AWS S3** and ditributed through **AWS CloudFront**. The administration dashboard was written in **Ruby/Rails** and the **Rails Admin** package with deployment to **AWS ElasticBeanstalk** with **Docker**.

[NLP / AUTO-COMPLETE] Utilized Elasticsearch's NLP capability to expose a Node.js RESTful API for auto-complete with the Koa HTTP library. The auto-complete service was consumed by the Concierge mobile application.

**[EXTERNAL SERVICE API INTEGRATIONS]** As Concierge was meant to be a "cognative" application, there was some integration with IBM Watson (the cognitive computing engine that that won Jeopardy).

Designed and implemented a **RESTful API** using the **Node.js Koa framework** with integration with the **Active.com API** (http://developer.active.com/docs/read/v2\_Activity\_API\_Search). Packaged as a **Node.js module**, **Open-sourced the code**, and published to the **npm registry** (https://www.npmjs.com/package/active-activity-search).

**[ETL]** Migrated a legacy Python **ETL** project to **data transformations** powered by **Node.js** streams. **Packaged the core helpers as a Node.js module, Open-sourced the code, and published to the npm registry** (https://www.npmjs.com/package/text-pipe).

### **Senior Front-End Software Engineer**

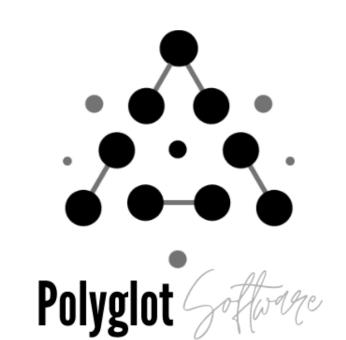
(CONTRACT) AUG 2012 - JUL 2014

Time Warner Cable - Broomfield, CO

Built an **HTML5 single-page-application** (**SPA**) and **HLS streaming video player** with custom scrubbing features. This system was targeting a **whole-home IP TV** (cable set-top box) system targeting millions of customer homes. Utilized **test-driven-development** (**TDD**) to implement and deliver features, bug-fixes, enhancements, and performance tuning.

Automated testing w/ Mocha, Jasmine, Sinon, Chai, and PhantomJS. Build automation with GNUMake and CI/CD with Jenkins. IaC via Puppet. Node.js for utility scripting, testing, and backend service stubbing.

Designed & Developed various HTTP API clients using **jQuery AJAX**, **Superagent**, **Promises**, higher-order functions, and "README"-driven development. API clients for retrieving and playing HLS streams as well as clients for retrieving emergency (**EAS**) notifications and application updates. Originally utilized **WebSockets** which were switched to **Server Sent Events**, **Mocha**, **Grunt**, **Gulp**, and **GNUMake**.



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I've been working with Node.js since pre-1.0. I checked it out initially, but didn't know how to start, bought an incomplete book, played a bit, put it down for a while, came back to it, and then npm came along, and then it all started to make sense.

# **TEST FRAMEWORKS** Automated test frameworks that I have used and feel comfortable writing new or modifying existing test cases. JS (TAPE, MOCHA, JASMINE, TESTEM, KARMA, JEST) **RUBY (MINITEST, RSPEC)** PHP (PHPUNIT) **API FRAMEWORKS** API libraries and frameworks that I've worked with. NODE.JS (EXPRESS, KOA, FASTIFY, CONNECT, HAPI) NODE.JS (APOLLO GRAPHQL, STRONGLOOP LOOPBACK) NODE.JS (NODE STANDARD LIBRARY HTTP/HTTPS) **RUBY (SINATRA)** WEB & MOBILE FRAMEWORKS API libraries and frameworks that I've worked with. REACT, REACT NATIVE **VUEJS ANGULAR BACKBONE** CI/CD Continuous Integration and continuous deployment systems that I've used, setup, and/or maintained.

**JENKINS** 

GITLAB CI

SEMAPHORE, CIRCLE, TRAVIS

### **WORK EXPERIENCE**

My contract and direct hire experiences with detailed depictions of notable projects I've delivered and in some cases, the reasons behind the tech decisions.

# Senior Full-Stack Software Engineer

\* DEC 2011 - JUL 2012

Net-Results - Golden, CO

[FRONT-END, BACK-END, UI/UIX, DEVOPS] UI/UX design and implementation for a multi-tenant browser-based single-page-application (SPA) for a customer cloud file management interface using AWS S3 for file storage with a PHP 5.3 backend.

[FRONT-END, BACK-END] Contributed to a REST API for account provisioning and client maintenence with jQuery and backed by MongoDB. Contributed to a multi-tenant browser-based single-page-application (SPA) for building marketing landing pages using drag-and-drop using HTML5, CSS3, and YUI3.

### (Team Lead) Senior Full-Stack Software Engineer

JUN 2010 - AUG 2011

Navigant (formerly Ethos Partners) - Denver, CO

[API ARCHITECTURE + IMPLEMENTATION, BACKEND, DEVOPS] Lead a team of 3 developers in successfully re-architecting a legacy monolithic web application that allowed health care providers to create health risk assessments (HRA) with custom business rules, branching, and demograph intake.

The original software was written with PHP 4.x which my team replaced with PHP 5.x using the **Zend Framework** and increased test coverage to **95%** (an increase of **94%)**.

### **Full-Stack Software Engineer**

(CONTRACT) OCT 2009 - JUN 2010

Kaango - Greenwood Village, CO

Designed, implemented, and documented a Full-Stack application utilizing PHP, HTML, JavaScript, and CSS for managing classifieds. Implemented a job queue on top of AWS SQS (Simple Queue Service) for handling batches of classified ads which were transformed before being persisted into a MySQL database as well as indexed into Solr for full-text search.

Designed, implemented, and documented a Full-Stack application utilizing PHP, HTML, JavaScript, and CSS for a question and answer website (similar to StackOverflow). Implemented an authentication and RBAC (Role Based Access Control) system in PHP. Refactored poorly performing SQL queries by tuning indexes. Increased unit test coverage from 3% to approximately 80%.

### **Full-Stack Software Engineer**

(CONTRACT) MAR 2009 - OCT 2009

Reed Business Information - Highlands Ranch, CO

Introduced unit testing to the team. Re-factored tightly coupled code with inversion of control for better testability. Successfully recommended and utilized cross-browser testing tools. Implemented an Object-Oriented JavaScript based tool, which maps a list of valid CSS definitions to be imported and exported in bulk. Successfully streamlined the development team's hiring processes. Lead and organized weekly user acceptance testing walkthroughs for new features and enhancements.

Contributed to **launch** of a number of **high-traffic websites** such as:

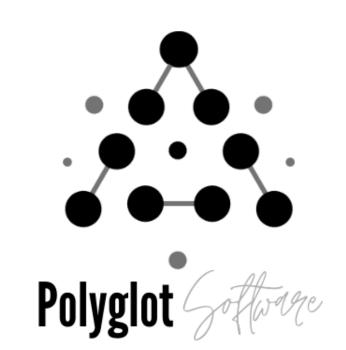
furnituretoday.com, designnews.com, multichannel.com, controleng.com, mbtmag.com, mbtmag.com, and controleng.com.

### Database Administrator, ERP & Subscriptions MGR.

NOV 2006 - MAR 2009

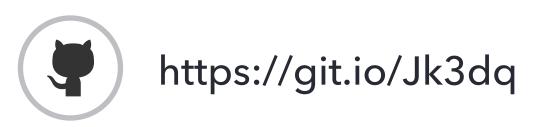
Gaiam, Inc - Louisville, CO

Managed continuity/subscription systems for *spiritualcinemacircle.com*. Developed a **SOAP** interface for retrieving data out of the **ECOMETRY ERP** system. Migrated an **ECOMETRY** system from **HP 3000 MPE/iX** to **Windows/MSSQL 2005**. Ported **Suprtool ETL** scripts to **SQL**, **DOS batch**, **AWK**, and **Python** scripts. Implemented **configuration change management** on **Subversion**. Integration with remote web services (**SOAP** and **REST**) including **email subscription** list synchronization. Managed the integration of **ECOMETRY** with a 3rd party fulfillment provider through **batch processes** and **webhooks**. This included a web-based **AJAX** interface for the fulfillment staff to **review** and **confirm** shipments.



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I've worked in and accepted responsibility for several open-source and client or employer source repositories that are based in languages such as PHP (Certified), Ruby w/ and without Rails as well as other API-based libraries such as Grape. I'm comfortable debugging at the server or code level with or without higher-order tools.

# WEB MAPPING Web mapping libraries, frameworks, and Web APIs that I have worked with.

MAPBOX	
LEAFLET	
WEB APIS (GOOGLE MAPS, MA	APQUEST)

### **CONTAINER PLATFORMS**

Containerization platforms, including container orchestration

olatforms that I've worked with.	
DOCKER	
KUBERNETES (DEV DEPLOYMENTS)	
MESOSPHERE (DEV DEPLOYMENTS	
GRAPHICS, UI, DIA	GRAMS

Vector graphics, photo editing, illustration, desktop publishing, UI prototyping, and diagramming programs I've worked with.

**VECTOR (SKETCH, ILLUSTRATOR, AFFINITY, FREEHAND)** 

PHOTO (PHOTOSHOP, PIXELMATOR)

DIAGRAMMING (OMNIGRAFFLE, BALSAMIQ, LUCIDCHART)

PUBLISHING (PAGEMAKER, INDESIGN, QUARKXPRESS)

### **NOW LEARNING \***

Technologies that I am currently actively learning are listed here. Because I'll run out of space here, look for items with an asterisk \* next to them. Those are items that should also be here.

SOFTWARE	<b>ENGINEERING</b>	MANAGEMENT '
SOFIWARE	ENGINEERING	WANAGEWENT

SOFTWARE ENGINEERING M	IANAGEMENT *
DEEP LEARNING *	
DATA SCIENCE *	

**KUBERNETES OPS WITHOUT HIGH-LEVEL TOOLING \*** 

### **MY PRODUCTS**

Entrepreneurial product ventures as well as notable things I've published...



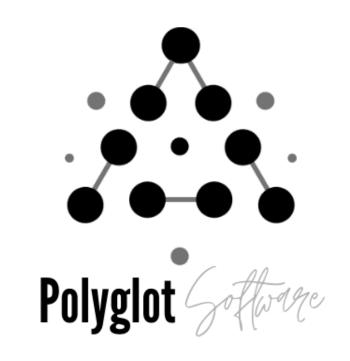
JAN 2019 - OCT 2020

tipoffgame.com

As the temporary CTO of a mobile game company called TipOff I re-architected and re-skined the iOS and Android apps and republished the apps to the app stores using the React Native platform.

I originally utilized expo; however, that proved to be less than maintainable (I wrote an article detailing issues with expo on LinkedIn). I eventually replaced **expo** with **fastlane**. Unfortunately, this change meant the entire app needed to be re-written from scratch using the non-expo path. New libraries needed to be selected, installed, and tested.

I was able to re-build the game from scratch in about 2-weeks. I had a working game ready to be published for **iOS**; though, I conceed that my builds were rejected several times for over one week before being accepted. I ran into various issues, mostly to do with screenshots; however, I also once attempted to publish an erroneous build. Previous exposure to React and the npm ecosystem



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I'm not too shy to strategically place an esoteric tool like regex, TDD, or functional programming. Some problems are as simple as reading the **shell exit codes or adding a** materialized view to the database. Software design patterns are sometimes good, but can sometimes trap you.

### **CERTIFICATIONS**

Technical certification exams that I've sat for and passed. A \* is used to denote technical certification exams that I am actively studying to sit for this calendar year.

**ZEND CERTIFIED ENGINEER - 2010 (ID: ZEND015278)** https://goo.gl/T6TePT

MICROSOFT CERTIFIED PROFESSIONAL (ID: 2592587)

AWS CERTIFIED SOLUTIONS ARCHITECT ASSOCIATE \*

### FORMAL EDUCATION

Formal education including high-school, college, and university work. There is no college-level degree as I stopped short to persue entrepreneurial ventures.

PARAMOUNT HIGH SCHOOL (1992 - 1996 GRADUATED)

**CSULB - COMPUTER SCIENCE & ENGINEERING (1996)** 

**MOUNT SAN ANTONIO COLLEGE (1997 - 1998)** 

CSULB - INFORMATION SYSTEMS (1998 - 2000)

U. OF PHOENIX ONLINE - INFORMATION SYSTEMS ('02 - '03)

### OPEN SOURCE, ARTICLES, CONFERENCE TALKS

Open-Source projects I've authored, articles I've written on software development, and conference talks I've given that may be moderately interesting to mention.

### selectn.js

npmjs.com/package/selectn

**RELEASED: MAR 2013** 

~368K downloads per month

selectn.js is a curried property accessor function written in JavaScript for Node.js and the browser that resolves deeply-nested **object properties** via dot/bracket-notation string path while mitigating TypeErrors via friendly and composable API.

I wrote selectn because I noticed that most of my colleages on the HNAV project during my time at Time Warner Cable were repeating the following pattern throughout the codebase:

person && person.info && person.info.name && person.info.name.full

**selectn.js** allows you to refactor the above **to the following**:

from being a bash shell program to a compiled binary written in **rust**.

selectn('info.name.full', person)

# php-version

github.com/wilmoore/php-version

**RELEASED: JAN 2012** 

@ GitHub 582 stars, 43 forks

php-version is a command-line PHP version manager. I wrote php-version so as to easily switch between different versions of PHP since at the time I was frequently switching between different client PHP projects. Though I've personally moved past using version managers as part of my everyday development workflow, I still maintain it as it's useful to many developers. I plan to re-factor it away

# uuid-regexp

npmjs.com/package/uuid-regexp

**RELEASED: JAN 2016** ~5K downloads per month

uuid-regexp is a JavaScript regular expression (RegExp) for finding an RFC4122 compliant UUID in a string. While it may seem unintuitive that something as tiny as a single regular expression would need to be open-sourced, consider the fact that this problem no longer needs to be solved in the JavaScript ecosystem and if I missed some edge-case, it will be resolved in a single place.



### curry2

npmjs.com/package/curry2

**RELEASED: MAY 2015** 

~100K downloads per month

curry2 curries a binary function, also said to be a function that expects 2 parameters or arguments. curry2 is useful in JavaScript because unlike true functional languages where functions are automatically curried (i.e. Scala, Haskell), in order to approximate the same, a lot of boilerplate code must be written to wrap the function you want curried. There are other libraries that will wrap a function so it acts like a curried function; however, most of them trade-off clarity and performance for convinience of currying any number of parameters. curry2 makes the trade-off of only supporting functions with an arity of 2 (thus a binary function) as I realized that I never had the urge to curry anything other than a **binary function**. You might also like to check out the following article that I wrote back in 2016 about some of the benefits of currying in JavaScript.

https://medium.com/@wilmoore/un-bind-your-js-with-curry-a8657a4138cb



### **Confoo Montreal Conference**

https://confoo.ca/en/speaker/wil-moore

2012 & 2013 Conferences

https://joind.in/user/wilmoore

**Conference Talks** 

10 advanced, yet digestible SSH techniques speakerdeck.com/wilmoore/10-advanced-yet-digestible-ssh-techniques

Painless, version-controlled database refactoring

DIY Private Cloud w/ VirtualBox and Chef confoo.ca/en/2012/session/diy-private-cloud-w-virtualbox-and-chef

speakerdeck.com/wilmoore/painless-version-controlled-database-refactoring