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Cloud Engineering Leader • Innovator • Problem Solver; looking for roles in technical leadership and engineering management.

Links: [GitHub \(personal\)](#) • [GitHub \(side project\)](#) • [LinkedIn](#) • [Stack Overflow](#) • [Role-targeted résumés](#)

Format: [Web](#) • [PDF](#) • [Word](#) • [OpenDocument](#)

## Summary

Cloud engineering leader with a diverse background spanning design, development, security, and innovation. Proven expertise in building scalable infrastructure, driving efficiency, and enhancing user experience. Adept at leading teams, streamlining complex processes, and fostering knowledge-sharing cultures. Passionate about solving real-world problems through technology, security, and strategic thinking.

## Key Skills

- Cloud Engineering and Infrastructure
- Technical Leadership and Team Building
- Cost Optimization and Strategic Planning
- Security and Compliance
- Documentation and Knowledge Sharing
- Open Source Development

## Work Experience

### [McGraw Hill](#) — Remote (since COVID), previously Seattle, WA

*McGraw Hill is a learning science company which produces textbooks, digital learning tools, and adaptive technology to enhance learning. It is one of the "big three" educational publishers in the U.S.*

#### Principal Engineer, Cloud Architecture (January 2024—October 2024)

- Joined a team whose mission was to provide guidance and support in the cloud journey of the entire organization.
- Started development on v2 of a project which scanned AWS accounts for misconfigurations and vulnerabilities. Goal was to reduce an [AWS Well-Architected](#) review from 2 weeks to 2 hours with automated scans, enabling more reviews annually (10 → 100).
- Managed the migration from [CentOS](#) to [Amazon Linux](#) before the CentOS end-of-life date, which elevated our security posture.
- Proposed best practices, guardrails, and security measures to ensure a secure and efficient cloud environment.
- Identified opportunities to extend the security measures and guardrails devised for AWS to other cloud platforms (Microsoft Azure, Oracle Cloud).

#### Principal Cloud and Platform Engineer (June 2020—January 2024)

- Led the team who supported all SRE and product engineering teams, scaling core platforms and services as every school in America transitioned to online learning during the COVID-19 lockdowns.
- Partnered with Enterprise Architecture and [AWS Professional Services](#) to deploy [Control Tower](#) and [Identity Center](#), resulting in lowered costs and improved control over security guardrails.
- Managed the Base [AMI](#) program (server disk images). Leveraged insights from [CIS](#), security patching, and internal needs to develop a unified build pipeline integrating best practices. Reduced time-to-boot, and eliminated engineering toil (1 → 10).
- Conducted comprehensive scans of [Route 53](#) to obtain a mapping of the company's thousands of active websites. Prioritized identifying and remediating misconfigurations, rotating certificates, and increasing visibility.
- Grew and ran a project which evaluated AWS accounts for high-priority misconfigurations and vulnerabilities. Included a high-level score (friendly competition), explanations of the issues (security education), and instructions for fixing (driving forward). Became a trusted tool across the organization (1 → 10).
- Implemented the custom Linux runtime environment used by self-hosted [GitHub Actions](#) runners.
- Spearheaded the [Artifactory](#) Rebuild project. Ran the project from inception to completion, including the majority of development. Directed effort across ~80 teams and ~300 services to complete the project.
- Enabled continuous token and password rotation for engineering teams by designing and deploying a *Token Vending Machine*, improving security.
- Adapted the *Monitoring-as-Code* tooling/methodology to abstract-away the underlying vendor, streamlining a vendor migration ([New Relic](#), [Datadog](#)) (1 → 10).
- Resolved all technology blockers preventing migration lower-cost [ARM64](#) CPUs, opening the door for ~\$450k/year in cost savings.
- Led dozens of smaller projects, offered guidance to engineers on best practices, and documented knowledge.

## Site Reliability Engineering Manager (October 2018—June 2020)

- Led the [Site Reliability Engineering](#) (SRE) team in addressing macro problems affecting engineering, empowering self-service.
- Established a process for maintaining reusable [Terraform](#) modules which teams leveraged to compose infrastructure.
- Customized the [Amazon Linux](#) AMIs to comply with Level-2 [CIS](#) Guidelines for both Amazon Linux and [Docker](#). Liaised with cybersecurity, operations, and business units to ensure compliance (0 → 1).
- Invented custom security and operational tooling to understand the current posture of AWS accounts where off-the-shelf tools did not meet the needs of the organization (0 → 1).
- Reduced the time to deploy a new service from dozens of weeks to a single meeting by implementing a *Monitoring-as-Code* methodology, and defining broad-use [Service Level Objectives](#) (SLOs) ([New Relic](#), [Datadog](#)) (0 → 1).

## Staff Software Engineer (October 2016—October 2018)

- Led the development of Tier-1 services within the educational content authoring pipeline, leveraging technologies such as [REST](#), [GraphQL](#), API design, [Amazon ECS](#) (similar to [Kubernetes](#)), [Docker](#), [Terraform](#), [ePubs](#), and security best practices.
- Led the development of the authoring component of the [SmartBook 2.0 product](#), and the internal system which indexes authored content, builds ePubs, and encodes images/video for the ePub CDN using [ffmpeg](#).
- Established the technical direction of these projects, promoted adoption across the organization, published comprehensive documentation, and offered ongoing integration guidance.
- Accelerated the adoption of CI/CD, rapid deployment practices, and Docker containers, shortening the feedback loop for developers and increasing the reliability of deployments.
- Served as a core resource in adopting *Infrastructure-as-Code* (IaC) tools such as [Terraform](#) and [Packer](#).

## [WePay](#) — Redwood City, CA

*WePay is an online payment service provider which provides "payments for platforms", where examples of platforms are GoFundMe, Care.com, and Xbox. JPMorgan Chase acquired WePay in October 2017.*

## Senior DevOps Engineer (April 2015—September 2016)

- Led a cross-company initiative to upgrade the monolithic application from [PHP](#) 5.4 to PHP 5.6 (the latest at the time). Facilitated cross-team collaboration among all major engineering teams and QA departments to achieve results.
- Initiated a program to automate the creation of base server images for cloud servers. This allowed new servers to boot and begin serving traffic ~75% faster.
- Invested in monitoring and alerting systems to prevent customer-facing issues ([New Relic](#), [Grafana](#)).
- Explored *configuration-as-code* for cloud infrastructure in [Google Cloud Platform](#) to improve reliability and efficiency.

## Senior API Engineer (April 2014—April 2015)

- Led the company's [HackerOne](#) security program, coordinating across teams to address security issues.
- Built a local development environment for engineering teams using [Vagrant](#). Eliminated "works on my machine", and reduced new engineer onboarding time from 2 weeks to 1 day (measured by when a new employee could make their first commit).
- Expanded WePay's payment security offerings by designing MFA-as-a-Service (U.S. patent filing [US15042104](#)).

## [Amazon Web Services](#) — Seattle, WA

*Amazon Web Services provides on-demand cloud computing platforms and APIs to individuals, companies, and governments, on a metered, pay-as-you-go basis.*

## AWS SDK Developer (March 2010—April 2014)

- Created the [AWS SDK for PHP](#), enabling AWS to reach millions of new developers.
- Initiated the creation of [AWS SDK for PHP](#) v2 to address changes in the PHP language and growth of AWS services.
- Led one of the first teams to provide reusable UI building blocks for the [AWS Management Console](#), by collaborating directly with the AWS Design team.
- Invested in increased transparency, better communication, and improved tooling for developers. [[Examples](#)]

## Older roles, side projects

See "[Previous experience, side projects](#)" for additional details.

- [Northwood Labs](#) — Owner (January 2024—Present)
- PCR Publishing (Side-Project) — Editor, Typesetter, Publisher, Book Producer (April 2021–April 2022)
- Perimeter of Wisdom, LLC (defunct) — Co-Owner, CTO, Producer (February 2015–2018)
- Rearden Commerce (now [Deem](#)) — Senior User Experience Developer (July 2008–March 2010)

- [WarpShare](#) (defunct) — Co-Founder and Chief Information Officer (September 2006—March 2010)
- [Yahoo!](#) — Front-end Developer (Contract), Yahoo! Messenger (November 2007—January 2008)
- [Stryker](#) — User Interface Developer (Contract) (May 2005—September 2006)
- [Digital Impact](#) (now part of [Axiom](#)) — Production Specialist (March 2004—April 2005)

## Projects

Proof that I can code, call APIs, interact with SDKs, and build user-facing software. I have live-coding anxiety, so live-coding interviews will always present me at my worst, not my best.

- **DevSec Tools:** Building a [website](#), [CLI tool](#), and [Go library](#) for identifying potential security configuration issues (in-progress).
- **Custom Linux Packages:** Building a [repository of custom Linux packages](#) (in-progress).
- **CSP Evaluator:** Building a [parser and evaluator for Content Security Policy \(CSP\) directives](#) in Go (in-progress).
- **Terraform Provider:** Built a [custom provider](#) which provides a set of utility functions for use in Terraform/OpenTofu.
- **Multi-Platform Docker:** Built a [downloader for GitHub release assets](#) which simplifies building multi-platform images.
- **AWS Organization Security:** Built a [library + CLI tool](#) which simplifies the hub-and-spoke pattern for multi-account orgs.
- **AWS Session Manager:** Built a [TUI](#) for [simplifying connections to SSM-enabled EC2 instances](#) using your Terminal.

## Examples of Technical Documentation

Here are examples of my public-facing documentation:

- [Setting up macOS for development](#)
- [Local AWS Lambda environments \(with Go\)](#)
- [Local development environment \(devsec-tools\)](#)
- [Configuring DataGrip for Valkey \(devsec-tools\)](#)
- Diagrams of Artifactory [infrastructure](#) and [software](#) configuration.
- Diagram of a [secrets-rotation system](#).

## Recommendations

See a [selective list of recommendations](#) from co-workers and peers.

## Patents and Notable Open-Source

- U.S. patent filing, ["System and Methods for User Authentication across Multiple Domains"](#) (US15042104) (2016)
- U.S. patent filing, ["Hive-based Peer-to-Peer Network"](#) (US8103870B2) (2007)
- [SimplePie](#) — An RSS parser for PHP; founded in 2004; integrated into [WordPress](#) core since 2009. Millions of global users.
- [CloudFusion](#) — A PHP SDK for AWS; founded in 2005; later became the official [AWS SDK for PHP](#). Millions of global users.

## Skills

This list is not exhaustive, but these are software and hard skills I leveraged in the roles above which are most relevant to Cloud Engineering, DevOps, and Site Reliability Engineering roles.

DevOps, DevSecOps, [ARM64](#), [AWS Well-Architected](#), [Amazon Web Services](#), [Ansible](#), [Artifactory](#), [Bash](#), [CIS](#), [CentOS](#), [CloudFormation](#), [CloudWatch](#), [Control Tower](#), [Docker](#), [ECS](#), [GitHub Actions](#), [GitHub Enterprise](#), [Git](#), [Go](#), [JavaScript](#), [Lambda](#), [Nginx](#), [OpenTelemetry](#), [OpenTofu](#), [PHP](#), [Packer](#), [Python](#), [Redis](#), [SDKs](#), [Terraform](#), [Traefik](#), architecture, automation, disaster recovery, error budget, multi-platform, performance, reliability, scalability, scripting, security, troubleshooting, uptime.

## Education

*Silicon Valley College* (now [Carrington College](#)), San Jose, CA. Bachelor of Arts, *Design and Visualization*