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Cloud-native engineering leader with a focus on reliability, scalability, and security for the modern web.

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# **Work Experience**

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

### Principal Engineer, Cloud Center of Excellence (January 2024—October 2024)

- Joined a team whose mission was to provide guidance and support in the cloud journey of the entire organization.
- · 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.

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

- Led the team who supported all SRE and product engineering teams, working on core platforms and services, as every school in America transitioned to online learning during the COVID-19 lockdowns.
- Partnered with Enterprise Architecture and <u>AWS Professional Services</u> to deploy <u>Control Tower</u> and <u>Identity Center</u>, resulting in lowered costs and increased control over account guardrails.
- Managed the Base AMI program. Leveraged insights from CIS, security patching, and internal needs to develop a unified build pipeline
  integrating best practices.
- Conducted comprehensive scans of <u>Route 53</u> to obtain a mapping of the company's thousands of active websites. Prioritized identifying and remediating misconfigurations, rotating certificates, and increasing visibility.
- Implemented the Linux runtime environment used by self-hosted GitHub Actions runners.
- Spearheaded the <u>Artifactory</u> 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.
- Improved security by enabling continuous token and password rotation for engineering teams by building a Token Vending Machine.
- 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.

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

- Led the <u>Site Reliability Engineering</u> (SRE) team in addressing macro-oriented problems affecting engineering teams, empowering greater self-service.
- Established a process for maintaining reusable <u>Terraform</u> modules which teams leveraged to compose infrastructure with minimal effort.
- Customized the <u>Amazon Linux</u> AMIs to comply with Level-2 <u>CIS</u> Guidelines for both Amazon Linux and <u>Docker</u>. Liaised with cybersecurity, operations, and business units to ensure compliance.
- Invented custom security and operational tooling to understand the current posture of ~200 AWS accounts where off-the-shelf tools did not meet the needs of the organization.
- 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 <u>Service Level Objectives</u> (SLOs) (<u>New Relic</u>, <u>Datadog</u>).

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

- Led the development of Tier-1 services within the educational content authoring pipeline, leveraging technologies such as <u>REST</u>,
   <u>GraphQL</u>, API design, <u>Amazon ECS</u> (similar to <u>Kubernetes</u>), <u>Docker</u>, <u>Terraform</u>, <u>ePubs</u>, and security best practices.
- Led the development of the authoring component of the <u>SmartBook 2.0 product</u>, and the internal system which indexes authored content, builds ePubs, and encodes images/video for the ePub CDN using <u>ffmpeg</u>.
- 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

#### **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).
- Increased reliability and efficiency by implementing configuration-as-code for cloud infrastructure in GCP.

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

- Led the company's <u>HackerOne</u> program, coordinating across teams to address security issues.
- Built a development environment for engineering teams. Reduced new engineer onboarding time from 2 weeks to 1 day.
- Expanded WePay's payment security offerings by designing MFA-as-a-Service (U.S. patent filing <u>US15042104</u>).

## **Amazon Web Services** — Seattle, WA

## Web Development Engineer II (March 2010-April 2014)

- Created the AWS SDK for PHP, enabled AWS to reach the largest developer group PHP.
- 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 <u>AWS Management Console</u>, by collaborating directly with the AWS Design team.

## **Skills**

DevOps, DevSecOps, TLS and cipher suites, ACM, ARM64, AWS Well-Architected, AWS, Amazon Web Services, Ansible, Artifactory, Bash, Bash, CIS, CentOS, CloudFormation, CloudFront, Control Tower, Docker, EC2, ECS, GCP, GitHub Actions, GitHub Enterprise, Git, Go, IAM, Identity Center, Image Builder, Lambda, Nginx, OpenTofu, PHP, Packer, Python, RDS Aurora, Redis, Route 53, S3, SDKs, Secrets Manager, Terraform, automation, cloud computing, cloud configuration security, computer science, database, deployment, disaster recovery, multiplatform development, operational reliability, performance, platform, rapid response, scalability, scaling, scripting, troubleshooting, uptime, virtualization.

# **Education**

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