Mark Mercado

Senior Platform Engineer | Cloud Automation | Compound Engineering

GitHub: https://github.com/mamercad | LinkedIn: https://linkedin.com/in/mamercad | Portfolio: https://mamercad.github.io | Resume: https://mamercad.github.io/resume/ | CloudMason: https://cloudmason.org

Summary

Senior engineer with 20+ years of experience building the systems behind reliable softwa
re: cloud
infrastructure, automation platforms, CI/CD workflows, observability, and developer tool
ing.
Currently focused on platform engineering at DigitalOcean, with a steady bias toward inf
rastructure
as code, public technical writing, and agent-assisted workflows that turn operational kn
owledge into
repeatable systems.

Comfortable across the stack, with a particular strength in compound engineering: combin
ing
software development, infrastructure operations, documentation, automation, and AI-assis
ted
workflows so teams can move faster without losing operational rigor.

Selected Impact

- Designed and operated automation platforms around Ansible AWX, StackSt
orm, GitHub Actions,
  Kubernetes, and internal APIs for cloud infrastructure workflows.
- Modernized infrastructure code by moving bespoke automation toward sup
ported upstream
  collections
  and staging-first validation.
- Built test-driven infrastructure readiness workflows for data center a
nd region configuration,
  using canonical source data and local validation before rollout.
- Created monitoring and observability systems with Prometheus, Grafana,
 StatsD-style metrics,
  custom exporters, and actionable operational dashboards.
- Built agent workflow knowledge systems around MCP, Obsidian, reusable
prompts, session memory,
  and human-in-the-loop review.
- Maintained a public technical writing practice covering cloud infrastr
ucture, CI/CD, secrets,
  PostgreSQL, Kubernetes, networking, and home lab operations.

Technical Strengths

Languages
Python | Go | TypeScript | JavaScript | Bash | SQL | Ruby | Perl

Platform & Cloud
Kubernetes | Docker | Linux | Terraform | Ansible | Chef | AWX | StackStorm |
GitHub Actions | CI/CD | DigitalOcean | AWS

Reliability & Operations
Prometheus | Grafana | StatsD | PostgreSQL | Patroni | HAProxy | Nginx | DNS | SSO/SAML
|
runbooks | incident response

Developer & Agent Workflows
MCP | AI-assisted development | multi-agent workflows | evaluation and review loops |
Obsidian knowledge systems | Markdown-driven documentation

Product & Web
React | Next.js | Node.js | REST APIs | component architecture | static sites |
technical content systems

Experience

DigitalOcean - Platform Engineering

Systems / Platform Engineer, 2020 - Present

- Build and improve internal automation workflows for cloud infrastructu
re operations.
- Work across platform services, orchestration, configuration management
, CI/CD, and operational
tooling.
- Develop structured approaches for safe infrastructure changes: staging
validation, reusable
runbooks, source-controlled configuration, and reviewable automation.
- Contribute to durable engineering knowledge systems that capture opera
tional context and make
future changes easier to reason about.

Barracuda Networks - Cloud / Infrastructure Operations

Lead Site Reliability Engineer, 2018 - 2020

- Operated hybrid cloud infrastructure across on-premises data centers a
nd public cloud
environments.
- Implemented and maintained systems for bare-metal provisioning, privat
e cloud, image pipelines,
DNS automation, package delivery, observability, and service discovery.
- Built Terraform, Terragrunt, Packer, Puppet, Ansible, Jenkins, Kuberne
tes, Helm, and Docker
workflows for infrastructure delivery.
- Created Prometheus exporters, Grafana dashboards, operational runbooks
, and deployment patterns
for internal platform teams.

TotalCAE - High Performance Computing

Senior HPC Consultant, 2016 - 2018

- Administered a 1,200+ node HPC environment supporting engineering simulation workloads.
- Worked with RHEL, Lustre, Infiniband, PBS Pro, Ansible, Zabbix, Elastic Stack, InfluxDB, Grafana, and custom operational integrations.
- Built automation and dashboards for cluster operations, troubleshooting, reporting, and SLA-oriented support.

University of Michigan-Flint

UNIX Systems Administrator / Lecturer / Business Systems Analyst, 2005 - 2017

- Administered UNIX/Linux, Solaris, virtualization, storage, Oracle-backed ERP systems, LMS platforms, SSO, disaster recovery, monitoring, and CI/CD services.
- Built custom integrations in PL/SQL, Perl, PHP, Bash, and Python for campus systems and operational workflows.
- Taught computer science courses including Python, C++, operating systems, and programming fundamentals.

Early Web & Systems Work

Founding Partner / Systems Administrator / Web Developer, 1996 - 2003

- Built web applications, publishing systems, billing tools, search systems, secure client portals, and small-business infrastructure.
- Worked across FreeBSD, Linux, Solaris, Windows, PHP, Perl, JavaScript, MySQL, networking, firewalls, and backups.

Selected Projects

CloudMason

- Personal infrastructure and engineering hub for home lab systems, GitOps-style network management, DNS, Cloudflare, UniFi, NextDNS, runbooks, and operational experiments.

AgentBrain / OpenPaw / envx

- Personal agent workflow ecosystem exploring MCP, Obsidian-backed memory, machine convergence, reusable context, tool gateways, and repeatable AI-assisted engineering loops.

Public Technical Writing

- Maintains technical notes on CI/CD, SSH, secrets, Kubernetes, PostgreSQL, Patroni, Prometheus exporters, UniFi, Let’s Encrypt, and home lab operations.

Education

Master of Science, Computer Science
University of Michigan-Flint

Bachelor of Science, Computer Science and Bachelor of Mathematics, Computer Science
University of Michigan-Flint

Publication

Cybersecurity in Banking and Financial Sector: Security Analysis of a Mobile Banking Application
2013 International Conference on Collaboration Technologies and Systems

Working Style

- Automation first, with enough documentation for future operators to understand the system.
- Comfortable moving from low-level infrastructure detail to product-facing developer experience.
- Strong preference for source-controlled workflows, explicit review, safe rollout, and observability.
- Interested in roles involving platform engineering, cloud automation, developer experience, reliability, and AI-assisted engineering systems.