

Brett Porter

CONTACT INFORMATION

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Principal Platform Engineer | Platform Architecture | Kubernetes | OpenTelemetry | Observability | AI Infrastructure

Architecting secure, scalable, and intelligent cloud ecosystems that power innovation, automation, and reliability across global platforms.

SUMMARY

- Platform Engineer and Cloud Platform Architect with 15+ years of experience designing, scaling, and operating internal developer platforms across AWS, GCP, and hybrid environments.
 - Specialist in multi-cluster Kubernetes platform engineering, building paved-road infrastructure that improves developer experience, self-service, and platform reliability at scale.
 - Architects observability platforms and distributed tracing strategies that provide end-to-end visibility across cloud-native systems while improving developer experience and operational efficiency.
 - Deep expertise in observability and OpenTelemetry — architecting unified metrics, logs, and distributed tracing with Grafana Tempo, Loki, Mimir, Alloy, and Prometheus across clusters and clouds.
 - Drives cloud platform architecture, infrastructure standardization, policy-as-code governance, and GitOps delivery to raise operational maturity across engineering organizations.
 - Fluent in Golang, Python, Bash, and TypeScript, blending software engineering and systems design to build platform tooling, operators, and automation.
 - Builds AI infrastructure and automation platforms leveraging open-source LLMs, vector databases, retrieval-augmented generation (RAG), and agent-based workflows to accelerate engineering productivity.
 - Trusted technical leader and mentor, partnering with engineering leadership to advance platform engineering strategy and long-term platform scalability.
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TECHNICAL EXPERTISE

- **Platform Engineering:** Internal developer platforms, paved-road infrastructure, self-service tooling, developer experience, platform engineering strategy, infrastructure standardization, cloud governance
- **Cloud Platforms:** AWS, GCP, hybrid & on-premises
- **Container Orchestration:** Multi-cluster Kubernetes, Amazon EKS, GKE, K3s, Rancher (1 & 2), Docker
- **Observability:** Observability architecture, distributed tracing, OpenTelemetry, Grafana (Tempo, Loki, Mimir, Alloy), Prometheus, Jaeger, Datadog, Sentry, InfluxDB, ELK
- **Infrastructure as Code & GitOps:** Terraform, Terragrunt, Atlantis, Helm, Kustomize, ArgoCD, Argo Workflows, Kubespray, Ansible, CloudFormation
- **CI/CD:** Jenkins, GitLab CI, GitHub Actions, Drone

- **Policy, Security & Secrets:** Kyverno, HashiCorp Vault, AWS Secrets Manager, External Secrets, kube-secrets-init, Kube2IAM, RBAC, network policies, mTLS, Cert-Manager
 - **Service Networking & API Gateways:** Tyk, NGINX, Istio, Linkerd2, EnvoyFilters, service mesh
 - **Languages:** Golang, Python, Bash, TypeScript, PHP
 - **AI / ML Infrastructure:** Retrieval-augmented generation (RAG), open-source LLMs, Qdrant vector database, agent-based workflows
 - **Data & Messaging:** Kafka, AWS MSK, Redis (Cluster & Sentinel), RDS, Redshift, PostgreSQL, MySQL, Elasticsearch, Apache Solr, Neo4j, TimescaleDB, Airflow
 - **Disaster Recovery & Backup:** Velero, MinIO, NFS
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KEY ACCOMPLISHMENTS

- **35% reduction in cloud spend** through proactive capacity planning and infrastructure optimization.
 - **4x improvement in deployment velocity** via standardized CI/CD and GitOps platform tooling.
 - **99.99% uptime** sustained across multi-region, mission-critical workloads.
 - **Statewide education platforms** delivered on a secure, multi-cluster Kubernetes platform.
 - **Enterprise-scale Kubernetes platforms** architected and operated for clients including CNN, Prudential (PGIM), and Genentech.
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PROFESSIONAL EXPERIENCE

California Community Colleges Technology Center — Senior Platform Engineer (Contract)

January 2021 – March 2026 | San Francisco, CA

- Architected and operated the platform engineering ecosystem supporting statewide education systems, including multi-cluster Kubernetes platforms across AWS, Amazon EKS, Rancher, and K3s environments with a focus on reliability, security, and operational scalability.
- Defined platform engineering standards and reusable, paved-road infrastructure patterns that raised governance, operational maturity, and infrastructure standardization while improving developer experience, deployment consistency, and time-to-production across engineering teams.
- Designed and implemented a centralized observability platform leveraging Grafana Tempo, Grafana Loki, Grafana Mimir, Grafana Alloy, Prometheus, and OpenTelemetry, delivering unified metrics, logs, traces, and service dependency visibility across clusters and cloud environments.
- Led OpenTelemetry adoption across the platform, instrumenting distributed tracing and end-to-end request correlation spanning Kubernetes workloads, API gateways, cloud-native applications, and managed AWS services.
- Managed multi-cluster Kubernetes fleets via Rancher, standardizing cluster lifecycle, provisioning, and operations across AWS accounts and private networks (EKS and K3s).
- Built and maintained reusable Terraform and Terragrunt frameworks for provisioning and managing AWS infrastructure across multiple accounts and environments.
- Established cloud governance and policy-as-code using Kyverno to enforce security, compliance, resource governance, and operational best practices across Kubernetes clusters.
- Owned API gateway strategy and service networking, evaluating and implementing Tyk, NGINX, OpenTelemetry, and service mesh technologies to improve platform visibility, security, and traffic management.

- Designed highly available CI/CD and GitOps workflows using Jenkins, Helm, Terraform, and Kubernetes, improving deployment reliability and reducing operational overhead.
- Developed internal automation and operational tooling in Golang, Python, Bash, and Kubernetes operators to streamline platform administration and reduce manual processes.
- Partnered with engineering leadership to advance platform engineering strategy focused on developer self-service, observability, and long-term platform scalability.

Wunderkind — Platform / Infrastructure Engineer

January 2021 – August 2025 | New York, NY

- Architected and managed highly available GCP infrastructure powering large-scale, low-latency applications across GKE, Dataflow, and Cloud Functions.
- Developed standardized GitLab CI/CD pipeline templates for multiple tech stacks (Golang, Node.js, Terraform, Firebase, Cloud Functions), improving deployment consistency across 50+ services.
- Engineered custom autoscaling mechanisms using Prometheus and GCP metrics to dynamically adjust API and worker workloads, ensuring 99.99% uptime and cost efficiency.
- Performed proactive capacity planning to identify and eliminate over-provisioned compute resources, reducing cloud spend by 30% annually.
- Implemented Infrastructure-as-Code (IaC) workflows with Terragrunt, Terraform, and Atlantis, enabling reproducible and auditable infrastructure changes.
- Developed internal tooling in Python, Golang, and Bash for label enforcement and automated GitLab batch operations, streamlining DevOps governance.
- Authored a Kubernetes Best Practices Report using Kyverno and Shell Operator to standardize security and compliance across clusters.
- Built and deployed a RAG configuration generator integrating open-source LLMs with the Qdrant vector database, enabling AI-driven automation in production environments.
- Maintained and optimized an Istio multicluster mesh with enforced mTLS, advanced routing via EnvoyFilters, and fine-grained AuthorizationPolicies.
- Integrated GitHub Actions workflows with Google Artifact Registry for automated artifact management and cross-environment deployments.

Genentech — Tech Lead (Contract)

January 2021 – January 2022 | San Francisco, CA

- Architected and managed the Mediledger blockchain platform within a secure, on-premises Kubernetes infrastructure, ensuring high availability and regulatory compliance.
- Built and automated development, test, and production clusters using Kubespray and Argo Workflows, streamlining environment provisioning and reducing setup time by 50%.
- Implemented GitOps workflows with ArgoCD, deploying Kustomize and Helm templates from GitLab for version-controlled, repeatable application rollouts.
- Integrated Prometheus Operator CRDs for advanced metrics collection and alerting, improving monitoring coverage and incident response time.
- Developed automated data refresh pipelines to synchronize test environments with production data, enhancing accuracy and reducing manual operations.
- Implemented disaster recovery processes using Velero, MinIO, and NFS, achieving rapid, verifiable backup and restore capabilities.
- Deployed centralized logging and alerting via Loki with structured pipeline stages, improving debugging and application visibility.

- Mentored engineers in Linux administration, Kubernetes management, and infrastructure automation, fostering a culture of operational excellence.

Code & Theory — Senior Site Reliability Engineer (Contract)

August 2019 – December 2020 | New York, NY

- Designed, built, and maintained AWS cloud infrastructure for enterprise-grade clients including CNN and Prudential (PGIM), ensuring scalability, performance, and cost efficiency.
- Developed automated deployment pipelines across multiple workstreams using Terraform, Jenkins/Drone, and Helm, enabling rapid and reliable delivery cycles.
- Architected scalable infrastructure and contributed code for CNN Datacloud (Election Center API), leveraging Apollo GraphQL (APQ), Neo4j, Airflow, Redis Cluster, Elasticsearch, Postgres, Lambda, Cognito, Datadog, and Fastly CDN to deliver high-availability, low-latency APIs.
- Supported CNN's 2020 MagicWall elections platform, implementing Redis Sentinel, AWS MSK, Python microservices, and TimescaleDB to ensure real-time accuracy and performance.
- Delivered complete cloud infrastructure for Prudential (pgim.com) using Drupal CMS, Varnish, Apache Solr, and MySQL, optimized through AWS and CloudFormation automation.
- Integrated HashiCorp Vault with Kubernetes via mutating admission webhooks, securing application secrets and credentials across clusters.
- Implemented Kube2IAM for dynamic AWS role assignments, reducing manual key management and improving compliance.
- Automated SSL certificate management using Cert-Manager and introduced Operators/CRDs to standardize Kubernetes deployments.
- Deployed a GatsbyJS website on AWS Amplify with full CI/CD integration via CloudFormation templates.
- Mentored DevOps and developer teams in Docker, Kubernetes, and Terraform, fostering adoption of modern IaC and containerization practices.

Axial — Senior DevOps Engineer

August 2015 – November 2019 | New York, NY

- Architected and managed AWS Cloud infrastructure, migrating legacy AWS Classic environments to VPC-based architectures supporting Kafka, RDS, and Redshift.
- Implemented full containerization and orchestration using Docker and Kubernetes with Rook/Ceph storage, RBAC, and network policies, improving scalability and security.
- Designed and automated release pipelines using Ansible, Helm, and Jenkins, enabling zero-downtime deployments and faster feature delivery.
- Developed end-to-end observability solutions integrating Prometheus, InfluxDB, Grafana, Sentry, and Jaeger, reducing incident response time by 40%.
- Authored custom Prometheus exporters and alerting logic to improve visibility into application and infrastructure health.
- Built and deployed microservices in Python and Golang, fronted by Nginx ingress controllers, ensuring consistent routing and performance across clusters.
- Implemented Infrastructure as Code using Terraform, securing secrets in HashiCorp Vault for full environment reproducibility.
- Developed a Slack bot in Golang to automate infrastructure events, notifications, and operational tasks.
- Created a local Kubernetes development framework using the Go client, accelerating developer feedback loops and improving testing fidelity.
- Integrated Linkerd2 service mesh for zero-trust communication and traffic management across services.

- Deployed Atlantis for Terraform CI/CD, streamlining infrastructure updates and approvals through GitOps workflows.

Vizrt — Support Engineer

October 2013 – August 2015 | New York, NY

- Delivered on-site and remote infrastructure support for major broadcast clients including NBC Universal, Bloomberg, CBS, and The Weather Channel, ensuring 24/7 system reliability.
 - Installed, configured, and maintained Oracle Database environments (10G/11G), including Oracle Database Appliance, RAC, and single-instance deployments.
 - Automated database replication and failover using Bash, SymmetricDS, and DBVisit Standby, improving disaster recovery and reducing downtime.
 - Developed and optimized PHP and VBScript templates to support broadcast workflow automation and real-time data integration.
 - Configured and maintained Apache web servers and custom order management pipelines across Linux and Windows environments.
 - Implemented proactive monitoring and OS patching, addressing security vulnerabilities and kernel-level updates to maintain compliance and stability.
 - Deployed and managed VMware ESXi environments supporting Viz Artist/Engine, Viz Trio, Viz Content Pilot, and Viz World Map Server across Windows and RHEL-based systems.
 - Streamlined operational tasks via Cron automation, reducing manual workload and enhancing system reliability.
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EDUCATION

Digital Media Arts College | Boca Raton, FL — 2005–2009 Bachelor of Fine Arts (BFA) — Studied computer animation and visual effects. During these four years, I started teaching myself how to code, which led me to where I am today.