

Mark Paine

Senior CI/CD and platform engineer with 20 years building and operating high-availability telecom, cloud, and payment systems across AWS, Azure, and GCP.

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EXPERIENCE

House of Doge · Senior Developer — CI/CD

Remote contractor from Auckland · 2025 – Aug 2026

Platform engineering and SRE focus

House of Doge is a Texas-headquartered cryptocurrency startup building payment and tokenization infrastructure for Dogecoin — the services, rails, and blockchain plumbing connecting traditional finance with cryptocurrency ledgers.

- ▶ Built highly available, multi-environment and multi-region AWS EKS platforms, including VPCs, subnetting, private endpoints, load balancing, DNS, and Linkerd mTLS
- ▶ Authored Helm charts and Kustomize overlays and troubleshoot production workloads with kubectl
- ▶ Built self-service delivery through standardised pipelines and a custom Argo CD-integrated deployment interface
- ▶ Implemented review-gated AWS CDK workflows that generated infrastructure diffs before deployment
- ▶ Provisioned and maintained production PostgreSQL databases and highly available Aurora, ClickHouse, and TigerBeetle infrastructure
- ▶ Operated observability with OpenTelemetry, Honeycomb, Prometheus, Alertmanager, Grafana, and Sentry
- ▶ Implemented least-privilege IAM and secrets management with External Secrets Operator, supporting SOC 2 readiness
- ▶ Built secured MCP services and least-privilege guardrails for internal developer agents

Major New Zealand telecommunications provider operating nationwide mobile, broadband, IoT, and enterprise voice services.

Progressed from Junior Developer to Principal Developer over 20 years, mentoring engineers and setting quality standards through architecture guidance and code review.

- ▶ Operated business-critical telecom platforms under contractual availability and service-quality commitments, covering on-call, incident leadership, root-cause analysis, and reliability improvements
- ▶ Designed cloud networking across VPCs, subnetting, routing, VPN connectivity and private endpoints; built GCP-hosted Cisco Meraki integrations and configuration automation supporting device procurement and automated SD-WAN provisioning for One NZ's Connected Business service
- ▶ Modernised and containerised core systems for AWS, decomposing selected workloads into microservices and migrating several large production databases from on-premises infrastructure
- ▶ Built and maintained device-provisioning services on AWS ECS for enterprise telematics integrations with Solution Dynamics and Telematics Guru; contributed separately to Azure IoT workflows using Event Hubs and Service Bus
- ▶ Built developer self-service delivery through GitLab pipelines, combining automated push/merge deployments with approval-gated releases
- ▶ Operated monitoring and alerting using Prometheus, Alertmanager, Grafana, and Loki
- ▶ Owned national telephone-number administration and portability workflows, integrating with the Industry Portability Management System (IPMS) and TNAS toll-free portability system
- ▶ Built and operated queue-based routing automation for the Ribbon voice platform, processing high-volume number-portability and network-routing updates
- ▶ Delivered general-ledger and PCI-DSS-compliant payment capabilities

Solus Designs is my independent AI systems company, building production machine-learning software and distributed LLM inference infrastructure.

- ▶ Designed and built TensorRelay, a Steam-distributed LLM inference platform using pipeline parallelism across heterogeneous consumer GPUs, with a Go control plane, custom Rust runtime, C++/llama.cpp stage execution, and Steam P2P transport
- ▶ Implemented dynamic model-layer sharding, cluster scheduling and admission control, model artifact distribution, and an OpenAI-compatible API; deployed the private-beta backend to Kubernetes through GitHub Actions and Argo CD
- ▶ Built and operated Octopus Trader, a live Python and Interactive Brokers trading system with a custom backtesting engine, production risk controls, and feature engineering across 12,000+ historical trades spanning 2005–2023
- ▶ Built and operated a repeatable MLOps workflow covering feature engineering across multi-year market datasets, construction of training, validation and forward-test sets, linear-regression experimentation, ensemble model training and cross-validation, inference serving, periodic retraining, and controlled promotion into live trading

WXC Communications · Technical Support	2004 – 05	iHug · Customer Services	2003 – 04
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SKILLS

CLOUD	AWS · GCP · Azure
KUBERNETES	EKS · Helm · Kustomize · kubectI · Linkerd · Docker
INFRASTRUCTURE AS CODE	AWS CDK · Terraform · Pulumi
NETWORKING	SD-WAN · Cisco Meraki · VPCs · Routing · VPNs · Private endpoints · DNS · Load balancing
CI/CD & GITOPS	GitHub Actions · GitLab CI/CD · Argo CD
OBSERVABILITY	OpenTelemetry · Prometheus · Alertmanager · Grafana · Loki · Honeycomb · Sentry
MESSAGING	Kafka · AWS SNS/SQS · Google Cloud Pub/Sub · Azure Event Hubs · Service Bus
APIS	REST · ConnectRPC · Protocol Buffers
DATABASES	PostgreSQL · MySQL · Aurora · ClickHouse · TigerBeetle · Microsoft SQL Server
LANGUAGES	Go · C# · TypeScript · Python · Rust · C++ · Java · Kotlin · Delphi
WEB	React · HTML · CSS · JavaScript · TypeScript · PHP
AI / ML	Linear regression · MLOps · Model serving · RAG · Embeddings · Vector databases (Qdrant) · LangGraph · MCP · Distributed LLM inference

EDUCATION

AWS Certified Developer — Associate Active	B. Computing Systems Unitec · 2003 — 2005
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References available on request.