

# NATHAN DOUGLAS

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Platform engineer with 12+ years building infrastructure for distributed systems. Currently focused on ML/HPC infrastructure: Kubernetes, Slurm, GPU workloads. Seeking roles bridging platform engineering and scientific computing.

## EXPERIENCE

### Senior Platform Engineer

Oct. 2020 – Present

*Agile Six Applications, Inc (contract to U.S. Department of Veterans Affairs)*

Remote

- Migrated VA.gov Check-In infrastructure between AWS accounts; converted CloudFormation to Terraform with automated module testing
- Led VA.gov CMS team through two major Drupal upgrades (8 → 9 → 10) with zero unplanned downtime
- Parallelized test suite, reducing CI time by 60%; built system tests spanning multiple products and upstream integrations
- Architected content release pipeline serving VA.gov's 300K+ pages to millions of veterans
- Managed ATO compliance for PHI/PII-handling systems; hired senior engineers and QA architect

### Senior Software/DevOps Engineer

Jan. 2016 – Oct. 2020

*Convention News Company*

Remote

- Migrated all products from Acquia to AWS, reducing yearly infrastructure costs by 70%
- Architected infrastructure and backend services for FutureFlight.aero and Business Jet Traveler
- Built Lambda-based subscriber services and data pipelines for ad sales and circulation
- Established CI/CD pipelines and containerized development environments across all products
- Mentored junior engineers on engineering best practices and professional development

### Software Engineer

Jan. 2012 – Dec. 2015

*DEVONtechnologies*

Remote (Bietigheim-Bissingen, Germany)

- Developed multi-leader sync system for flagship macOS/iOS apps with millions of users
- Introduced CI/CD pipelines and Agile practices to the development team
- Collaborated with a distributed international team across multiple time zones

## TECHNICAL SKILLS

**Languages:** Rust, Python, Bash, JavaScript, Go, C, PHP, Objective-C, Clojure

**Infrastructure-as-Code:** Terraform, Ansible, CloudFormation

**Orchestration/HPC:** Kubernetes, Slurm, Docker, Nomad, Nextflow

**CI/CD:** GitHub Actions, Jenkins, CodeBuild/CodePipeline

**Observability:** Prometheus, Grafana, OpenTelemetry, Datadog, CloudWatch

**Service Mesh/Security:** Consul, Envoy, Vault, Cilium

## PROJECTS

- 👉 **Goldentooth:** Multi-node Kubernetes cluster with Slurm job scheduling, GPU compute, and JupyterLab; full observability stack and GitOps deployment (*Talos, Kubernetes, Flux CD, Slurm*)
- 📚 **Bitwit:** Spaced repetition platform for CS education with time-based grading and parameterized card generation (Beta) (*TypeScript, AWS Lambda, DynamoDB*)
- 🗣 **Whispers:** Gossip-based mesh network with fraud-resistant distributed optimization via audited CRDTs (*Rust*)
- 💻 **Blackpool:** Stack-based bytecode VM with mark-and-sweep GC, closures, and inheritance (*Rust*)
- ✍ **Distillation:** Knowledge distillation with Jacobian/Hessian regularization and adversarial training (*Python, PyTorch*)
- 🎮 **Greenstone:** Cycle-accurate NES emulator with precise timing and hardware modeling (*Rust*)
- 📜 **Clork:** Port of Zork I from the original mainframe MDL to modern Clojure (*Clojure*)

## EDUCATION

### University of Nevada, Las Vegas

Las Vegas, NV

*Bachelor of Arts in Computer Science*

Dec. 2011