

# Michael Owings

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## Summary

Experienced engineer with a broad background in DevOps and general software development. Skilled in optimizing AWS-based infrastructures, managing large-scale systems, and driving operational excellence. Proficient in Kubernetes, AWS services, Terraform, and more. Committed to reducing costs while maintaining top-notch performance.

## Experience

### Shutterstock - Principal Engineer (02.2021 - Present)

- Managed improvements and enhancements to Shutterstock's larger infrastructure (around 20 Kubernetes clusters with 1200 workers, and another 800 or so EC2 instances)
- Optimized 3D infrastructure within Shutterstock's AWS-based ecosystem.
- Integrated 3D systems, migrating 350 repositories to enterprise GitHub. Replaced Hubot-based CD with ArgoCD, GitHub Actions, and Helm.
- Improved secret management by transitioning from Zookeeper/Vault to GitHub Actions, Amazon Secrets Manager, and Kubernetes External Secrets.
- Led development of 3D workflow app for AWS and on-prem environments (multiple Golang services).
- Migrated logging from SumoLogic to NewRelic, reducing costs by 80% and enhancing observability.
- Successfully transitioned services from EC2 hosts to EKS, reducing costs and administrative overhead.
- Led migration of Turbosquid stack to Amazon EKS, including databases and services (Postgres, Elasticsearch, RabbitMQ, etc.).
- Enhanced local development experience using Garden.io and other tools.
- Managed upgrades and troubleshooting of Opensearch and Aurora Postgres systems comprising terabytes of application data.
- Architected disaster recovery plan for 3D and Shutterstock Catalog infrastructure.
- Utilized tools like Cost Explorer, CloudCheckr, Kubecost, and AWS Quicksight dashboards to optimize AWS costs.

### Turbosquid - Senior Engineer (10.2012 - 02.2021)

- Migrated Turbosquid's application stack to on-prem bare-metal Kubernetes. Utilized Ansible and Terraform for multiple applications and critical components.
- Designed and regularly tested disaster recovery plan for swift migration from Miami data center to AWS. Employed CloudFormation, Ansible, and custom code.
- Developed infrastructure management tools like Scylla (distributed task scheduling and execution) and StackAmigo (Kubernetes stack deployment for developers) using Golang and Ruby.
- Managed data center infrastructure, implementing ELK and Grafana/Prometheus for observability.
- Streamlined complex 3D workflows using Golang applications.
- Architected and built Rails projects for Turbosquid's marketplace evolution.

- Pre-Kubernetes, built LXC-based CD system using Golang node agents and AWS services and a git-based workflow.

## Additional Professional Experience

For brevity and relevance, focusing on the past 11 years. Additional history available upon request.

## Patents/Publications

- Co-author, "Robot DNA: Building Robot Drive Trains" (with Dennis Clark, ed. Gordon McComb), McGraw-Hill Professional, October 2002.
- Co-inventor, US Patent No. 6,249,883, "System and Method for Monitoring Domain Controllers"

## Skills

- **DevOps Tools:** Kubernetes, Terraform, Ansible, Helm, ArgoCD, Docker
- **Cloud Platforms:** AWS, AWS Aurora, Amazon EKS
- **Monitoring:** NewRelic, Cloudwatch, ELK Stack, Prometheus/Grafana
- **Languages:** Golang, Ruby, C/C++, Lua, Python and more
- **Databases:** PostgreSQL (AWS Aurora and bare metal), Mongo, Redis, Memcached. Some SQLServer
- **IaC:** CloudFormation, Terraform, Ansible, Puppet
- **Version Control:** Git, GitHub, GitHub Enterprise
- **Containerization:** Docker, Kubernetes, some RKT
- **Secrets Management:** Amazon Secrets Manager, Kubernetes External Secrets, Vault
- **CI/CD:** Jenkins, Github Actions, ArgoCD, Helm Charts
- **Log Management:** ELK Stack, NewRelic Logs, Cloudwatch
- **Observability:** Grafana, Prometheus, NewRelic Insights
- **Development Tools:** Visual Studio Code, Garden.io, Vim, etc
- **Project Management:** JIRA, Confluence
- **Cloud Cost Management:** AWS Cost Explorer, CloudCheckr, Kubecost, AWS Quicksight
- **Agile Methodologies:** Scrum