

# Michael Owings

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Experienced engineer bringing to the table a wide range of knowledge and expertise in both devops and general software development. Projects have ranged from large complex distributed systems to tiny, embedded real-time platforms. Deeply involved in designing and building release, deployment and monitoring infrastructure for large e-commerce sites, both on-prem and in the cloud, as well as overseeing operations of same.

## Experience

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

In my current role I focus on optimizing much of the 3D aspect of Shutterstock's AWS-based infrastructure. Platforms and systems include Kubernetes, AWS Aurora, Opensearch, and more. Most observability via NewRelic, Cloudwatch, ELK, and Prometheus/Grafana. Leveraged Terraform, Atlantis, and CloudFormation for IaC.

#### Highlights:

- Integrated 3D infrastructure into Shutterstock's larger system, migrating 350 repositories to enterprise GitHub. Replaced Hubot with ArgoCD, Github Actions, and Helm.
- Shifted from secret storage in Zookeeper and/or Vault to a workflow comprising Github Actions, Amazon Secrets Manager, and Kubernetes Extnal Secrets for secrets management.
- Responsible for continuous coding/improving/deploying our 3D workflow app, for mixed AWS and on-premises environments. (Golang)
- Migrated logging from SumoLogic to NewRelic, reducing costs by 80% while improving observability.
- Transitioned multiple services from ec2 hosts to EKS, saving both cost and administrative overhead.
- Led smooth migration of Turbosquid stack from on-premises bare-metal Kubernetes to Amazon EKS, with minimal downtime (15 mins). Transitioned databases and services including Postgres, Elasticsearch, RabbitMQ, Memcached, Redis and more.
- Work to improve local code development experiences with tools like Garden.io and others.
- Ongoing management upgrades and troubleshooting of large Opensearch and Aurora Postgres systems.
- Architected a disaster recovery plan for 3d and larger Shutterstock Catalog infrastructure.

All of my work with Shutterstock is also done with an eye toward reducing AWS costs wherever possible, while stil maintaining operational excellence.

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

Roles included both development and devops. Highlights:

- Migrated the bulk of the Turbosquid application stack to on-prem bare-metal Kubernetes. This included multiple Ruby/Rails, PHP and Golang applications, as well as PostgreSQL, Elasticsearch, RabbitMQ, Redis and Memcached. Tools: Ansible, Terraform.
- Designed and implemented a DR plan to move rapidly from our Miami datacenter to AWS in the event of an emergency. This plan was tested quarterly. Tools used include CloudFormation, Ansible and

some bespoke code.

- Continued to design and implement multiple tools to manage our infrastructure. Among others, these include Scylla -- a manager for scheduled tasks, StackAmigo, a system that allows developers to quickly deploy application stacks to Kubernetes, and more. These tools were written primarily in Golang, with some tooling written in Ruby.
- Responsible for ongoing operation of most datacenter infrastructure, including Postgres, Elasticsearch, etc. Implemented ELK and Grafana/Prometheus for observability and alerting.
- Built and maintained tools to manage complex 3d workflows (Golang, primarily).
- Also responsible for development of Rails projects comprising the next generation of Turbosquid's marketplace.
- Pre-kubernetes designed and implemented an LXC-based CD system using node agents built in Golang, and utilizing S3, Git, Puppet and (later) Ansible for container provisioning.

But wait -- there's more

My career in tech stretches back nearly 35 years. I have included only the last dozen or so for the sake of brevity. I have around 15 years of experience with AWS, as well as Postgres,

## Patents/Publications

- Robot DNA: Building Robot Drive Trains (book 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

## Contact/Links

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