

Morgan Bauer

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Experience

Morgan bridges the gap between theory and practice for containers and Kubernetes, by bringing not only theoretical knowledge upstream open source experience on the projects, but also practical application of that knowledge from running multiple Kubernetes clusters with up to over 1000 nodes.

Morgan is also an Open Source Software (OSS) Engineer, previously working for IBM on Kubernetes, Docker and the surrounding container technologies. He has extensive experience in the creation of open source software, containerized software development and complex system architecture. Morgan also enjoys working with cross-functional teams, and presenting at conferences and meetups

Specialties: Containers, Kubernetes, Cloud Computing, OSS Development, Developer Advocacy

Lyft

Kubernetes Operator

San Francisco, CA

August 2021 – April 2023

Software Engineer

- Self-hosted **Kubernetes** v1.16 migration to v1.22 to v1.23 AWS Hosted EKS through workload movement.
- Executing pre-planned initiatives while maintaining and enhancing the stability of the kubernetes clusters as part of an oncall rotation.
- Mentor team members and push for documentation and use of checklists to increase confidence in the infrastructure.
- Infrastructure managed by terraform, along with **Golang** and bash programs.
- Used systemd and podman to move to containerized services for Kubernetes control plane.

IBM

Open Source Project Maintainer

San Jose, CA

July 2015 – February 2021

Hyperledger Fabric - Enterprise Permissioned Blockchain for Business

- Maintained a **Golang** EVM (Ethereum Virtual Machine) chaincode for fabric by guiding new committers through contribution process
- Implemented ethereum json-rpc 2.0 endpoints for Remix IDE to connect with Fabric network to manage and deploy EVM smart contracts
- Drive Fabric adoption by implementing Truffle compatibility resulting in Truffle Conference keynote
- Mentored LinuxFoundation Intern to create WebAssembly Chaincode for Fabric
- Improved code quality of Gossip Protocol by **removing race-conditions** to re-enable integration testing and community usage
- Increased Fabric unit testing speed to increase contributor velocity by targeting slowest tests
- Implemented Kubernetes and Docker backends for Blockhead Ethereum Service Broker and port from Ruby to **Golang**

Kubernetes – SIG-Service-Catalog

- Maintainer and founding community member of Service-Catalog an implementation of the OpenServiceBroker API (OSBAPI)
- Implemented OSBAPI to expose thousands of existing IBM CloudFoundry services to Kubernetes
- Collaborated with multiple cloud providers to adopt CloudFoundry service concept for cross-cloud compatibility
- Created CI pipeline in Travis and transitioned entire pipeline to CNCF infrastructure driven by Prow
- Implemented aggregated APIServer (predating CRDs) for Kubernetes native object behavior
- Ensured multi-architecture compatibility by communicating with stakeholders of PowerPC and S390X

Maintainer of Docker/Moby Engine Core

- Maintainer of Docker ClassicSwarm (Docker-native cluster management predating Kubernetes)
- Decoupled the server side API from the engine leading to separate client and server binaries allowing efficient re-use of client code
- Increased code quality by performing corrective changes and enabling static analysis

Developer Advocate for Open Source

- Design & Execute Education on Cloud Native Technologies
 - Customizing content for internal and external audiences of both technical and nontechnical nature
 - Demonstrate value of containerization to improve application development, deployment, and scaling
 - Encourage contributions back to upstream projects
- Grow IBM Open Source committer base by 300 through mentorship and education on **Applied use of Git with GitHub**
- Decreased new contributor fatigue to Kubernetes communities with increased documentation on node-e2e-test and videos on YouTube
- Triage community issues by performing fixes and writing documentation

Lenovo

Software Engineer

Rochester, MN

October 2014 – May 2015

Manager of Managers (Lenovo XClarity Cluster Management)

IBM

Software Engineer

Rochester, MN

July 2012 – September 2014

Manager of Managers (Lenovo XClarity Cluster Management)

VMControl

Education

University of Florida

Masters of Engineering in Computer Engineering

Gainesville, FL

2010 – 2012

Conference Talks

Kubecon EU 2020: A Journey Through Kubernetes Admission Controller Taxonomy

Hyperledger Global Forum 2020: Hyperledger Fabric 101 Workshop

TruffleCon 2019 Keynote: Truffle Support For Hyperledger Fabric

OpenSourceSummit Japan 2019: Hyperledger Fabric 101: Permissioned Blockchain Platforms

OpenSourceSummit China 2019: Creating your First Smart Contract on Hyperledger Fabric

ApacheCon NA 2018: Comparisons of Cloud Native Communities

Kubecon EU 2018: Building a Fault-Tolerant Resource Controller on Kubernetes

CloudFoundry Summit 2018: Open Service Brokers for the CF Container Runtime

CloudFoundry Summit 2018 Hackathon: Project Blockhead - Winning Project

CloudFoundry Summit EU 2017: Getting a Handle on Your Microservices: Istio and the Open Source Broker API

Interests

Amateur Radio - General Class License KN6AQX

Photography - Travel Snapshots, Nikon D500 DSLR

Rust Programming Language