# Gabriel (Gabe) S. Conradi

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- https://github.com/byxorna
- http://pipefail.com

## Summary

Linux engineer, systems architect, front and backend web developer, with an eye towards scalable design, containers, future technologies, interesting problems, clean solutions, and service oriented architecture.

## Buzzwords

**Languages:** Golang, Ruby, Bash/Zsh, Javascript/Node, HTML/CSS, PHP, C#, Perl, C/C++, SQL, Java, Python, Scala

**OSes:** Linux (RHEL derivatives, Debian/Ubuntu, SuSE), Solaris, BSD

**Applications:** Kubernetes, Docker, Prometheus, AlertManager, Nginx, MySQL, Redis, Redis, memcached, HAProxy, Varnish, ElasticSearch, ZooKeeper, OpenTSDB, Mesos, Marathon, Aurora, OpenStack

**Tools:** Puppet, D3.js, RPM+tito+mock, Jenkins, Drone.io, Collins, Genesis, mrepo, Kibana, Logstash, Fluentd, GitHub, Collectd, OSPF, jQuery, CFEngine2/3, Git, Ruby on Rails, Gerrit, Backbone.js, Resque, MVC3, Perforce, LXC/Xen/KVM/VMWare, ORMs, Kickstart, PXE, Phabricator

**Storage:** HDFS, GPFS, NFS, LVM, Multipath, NetApp, Isilon, ZFS, Lustre

**Networking:** Infiniband, 10/40GE, Juniper Switches, Cisco Switches Routers and VOIP, F5/A10 Load Balancers, MERU Wireless

## Notable Upstream Contributions

- k8s-sidecar-injector - Kubernetes sidecar injector (Go)
- k8s-secret-projector - Automate Kubernetes Secret management and rotation, securely (Go)
- k8s-config-projector - Automate Kubernetes ConfigMap creation and projection from external sources (Go)
- docker-registry-pruner - Predicate based docker image registry maintenance (Go)
- collins - Tumblr's infrastructure automation and asset management database (Scala)
- genesis - Tumblr's infrastructure provisioning and automation framework (Ruby)
- tumblr-engineering-k8s-tools-blogpost - Open Sourcing Tumblr's Kubernetes Tools (Blog)
- tumblr-engineering-docker-registry-pruner-blogpost - Open Sourcing Tumblr's Docker Registry Pruner (Blog)

## Noteworthy Personal Projects

- homer - DNS over HTTPS (DOH) implementation (Golang)
- tumblrtv-xscreensaver - TumblrTV xscreensaver (C)
- fadecandy-orb-lamp - Fully addressable RPi and Fadecandy LED lamp (Node)
- tumblr-geodash - Radiator dashboard for visualizing Tumblr posts in realtime from firehose (Golang, JS)
- goji - Evented service discovery for apps in Marathon to generate DNS zones, HAProxy configs, etc (Golang)
- merlin - confd inspired etcd backed config emitter (Ruby)
- collins-cli - CLI for interfacing with collins API (Ruby)
- site - Site driving pipefail.com (Node)

# Work Experience

## Datadog - New York, NY

### Senior Engineer - July 2020 to present

- High scale Kubernetes on the Compute team

## Tumblr - New York, NY

### Senior Principal Engineer - July 2017 to June 2020

- Architect of Kubernetes and containerization efforts
- Worked to design highly observable distributed systems at scale
- Evangalized modern engineering organization processes to elliminate friction between humans and systems
- Drove adoption of Go as primary services and infrastructure language
- Strove to elliminate toil through automation, instrumentation, and careful application of SRE ethos

## Freelance Consulting - Everywhere

### Infrastructure and Distributed Systems Consultant - March 2017 to present

## Uber ATC - New York, NY | Pittsburgh, PA

### Staff Engineer, SRE - January 2016 to March 2017

- Worked on mapping, autonomy, and safety
- Provided technical leadership in the SRE domain
- Designed and implemented next generation containerized HPC deployments for R&D
- Built fully automated provisioning and lifecycle management system for high scale datacenters
- Worked to coalesce around common infrastructure like Mesos, Marathon, Aurora, HDFS, Prometheus

## Tumblr - New York, NY

### SRE Staff Engineer - September 2014 to January 2016

- Provided technical leadership in the SRE domain
- Formalized developer contribution processes and guidelines to accomodate a rapidly growing number of repos and development team
- Fostered culture of blameless breaking incident postmortems, encouraging repayment of tech debt
- Drove architecture planning processes for new projects
- Architected and spearheaded transition to containerized services in production
- Created full container lifecycle automation in both bare metal and scheduled (i.e. Mesos) environments (logging, metrics, monitoring, deployment, config deployment)
- Created a comprehensive log aggregation, alerting, and dashboarding infrastructure with Logstash, Kibana, ElasticSearch, and Icinga

### Site Reliability Engineer - July 2013 to September 2014

- Maintained and scaled infrastructure of top 20 site in US
- Web scale HTTP operation and architecture (Load balancing, caching, CDNs, async job tier, DB sharding, etc)
- Architected fully automated bare metal provisioning system
- Improved fully automated service discovery mechanisms driving provisioning, load balancing, etc
- Owned and architected scalable and HA configuration management infrastructure
- Contributed to and maintained open source projects (Collins, Genesis)
- Built and integrated fully automated and self service OpenStack VM development environment

- Created, maintained, and backported builds of critical packages to maintain a Tumblr distribution (PHP, Nginx, Ruby, Collectd, Puppet, Java, etc)
- Performance tuning of critical systems

## FactSet Research Systems, Inc - Norwalk, CT

### Unix Systems Engineer III, UNIX Team - October 2011 to June 2013

- Work in environment of 800+ RHEL5 and 6 machines, enabling transition from VMS to Linux at scale
- Automate and simplify patching, builds, configuration management, deployments, and decommissions
- Build and configure physical and virtual systems with CFEngine and homemade provisioning tools
- Lead GPFS engineer; manage 150+ node clusters, tuned for application performance
- Debug and patch critical issues in upstream projects, build and deploy custom RPMs
- Design front and back-end of large internal websites using modern technologies and techniques
- Design and manage services providing REST interfaces to MySQL, web infrastructure, and provisioning

### Voice Engineer, Voice Engineering (Core Network Engineering) - July 2010 to October 2011

- Designed, implemented, and supported a global voice network
- Built complex client-side applications to support global consultant workforce
- Designed internal reporting tools using modern languages, libraries, and practices
- Configured dial plan to support toll-aversion, mixed VOIP and POTS infrastructure
- Worked with Cisco voice routers, CallManager, Unity Messaging, and Unified Contact Center

## Washington University Network Services & Support - St. Louis, MO

### UNIX Systems Administrator - March 2009 to July 2010

- Maintained and deployed production Linux and Solaris environments
- Designed custom backup, HA, and monitoring solutions
- Managed IP backbone networks with I1 and I2 connectivity
- Managed campus-wide DNS and IP
- Implemented new technologies as they became available to improve network service

## Hi/Tec Copy Center - St. Louis, MO

### Copier Operator/Customer Service Representative - August 2004 to September 2008

- Collaborated with customers to obtain job specifications
- Operated and maintained Canon and Xerox copiers and print servers
- Designed customer's orders with professional graphic design software
- Mounted and framed large format posters

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# Education

## Washington University in St. Louis, MO - September 2006 to May 2010

- Bachelor of Science in Applied Science with a double major in:
  - Computer Science (Cum Laude)
  - Germanic Languages & Literature
- Dean's List Fall 2006, Fall 2007, Spring 2008, Spring 2009
- Overall cumulative GPA 3.71

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# Volunteer Work

## St. Louis Science Center - St. Louis, MO

**Volunteer Gallery Aide - June 2001 to August 2004**

- Managed the Cyberville Gallery
- Aided in leading the Lego Mindstorms ticketed activity
- Supervised activities in the Puzzles Exploradome Exhibit
- Organized sponsored LAN party events