

K.S. Root

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WORK EXPERIENCE

- ◇ **Senior DevOps Engineer**, Lola.com
Boston, MA (March 2019–Present)
 - Migrated the continuous integration (CI) system off of TeamCity and CodePipeline to Jenkins to allow for better collaboration with the development and quality assurance teams in the artifact delivery process.
 - Refactored the two largest codebases to utilize structured logging to allow for querying arbitrary subsets of events, tracing execution along previously unanticipated dimensions, and the creation of ad hoc metrics from log events.
 - Laid the foundations for an engineering culture based on metrics-driven decision making.
- ◇ **Senior Operations Engineer**, Lola.com
Boston, MA (December 2016–February 2019)
 - Containerized and migrated the entire infrastructure to Kubernetes which has been the sole platform where applications run since August 2018.
 - Facilitated all infrastructural changes needed to remove personally identifying information (PII) and some personal data from our primary systems, auxiliary systems (logging & analytics), and workflows in support of compliance with privacy laws such as GDPR & the CCPA.
 - Implemented a secure cardholder data environment (CDE) from scratch that has allowed Lola.com to maintain compliance with PCI DSS at the most stringent merchant level (level 1 which permits the storage and processing of cardholder data in support of more than 6,000,000 transactions per year) since December 2017.
- ◇ **Senior IT Engineer**, AG Mednet, Inc.
Boston, MA (March 2015–December 2016)
 - Lead several initiatives including log aggregation (with Elasticsearch and Logstash), centralized configuration management (using Ansible), and migration to Cassandra.
 - Ensured infrastructure remained highly available without affecting throughput or performance generally.
 - Maintained HIPAA compliance by creating and enforcing the use of known optimal and validated configurations for all remotely-deployed servers.
- ◇ **Support Engineer, Tier II**, AG Mednet, Inc.
Boston, MA (August 2012–March 2015)
 - Worked with customers on infrastructure-related requests escalated by Tier I Support Engineers.
 - Provisioned servers used for teleradiology and transmission of clinical trial data to Hospitals and Clinical Research Organizations.
 - Authored a Java utility which reads DICOM network traffic and writes DICOM files to locations dependent on meta-data gathered from the network traffic. This system is used in production by customers for situations where the installation and continued operation of a medical imaging archive (PACS) cannot be not justified.

- ◇ **Support Engineer, Tier I**, AG Mednet, Inc.
Boston, MA (June 2011–August 2012)
 - Responded promptly to customer problems and questions by email and telephone.
 - Worked to accurately identify, replicate, and document software defects and customer-requested product enhancements.
 - Worked proactively with Software Engineers to provide the support team with current information on product problems and resolutions.
 - Participated in an on-call rotation supporting physical, virtualized (Xen), and cloud (AWS) infrastructure.

EDUCATION

- ◇ **Boston University Metropolitan College**, Boston MA
BS in Computer Science, September 2015–August 2017.
- ◇ **University of Massachusetts**, Amherst, MA
Studied courses in Linguistics, September 2006–May 2010.
 - Followed a technical track with courses including CMPSCI 585 *Introduction to Natural Language Processing* & LING 409 *Formal Methods in Linguistics* and graduate-level courses LING 603 *Generative Phonology* & LING 751 *Topics in Phonology*.
 - Presented original research, *An Agent-based Model of Canadian Raising on Martha's Vineyard*, at NECPHON 3 (Northeast Computational Phonology Circle).

CERTIFICATIONS
& TRAINING

- ◇ Certified Kubernetes Administrator (CKA, September 2019)
- ◇ Red Hat Certified System Administrator (RHCSA, December 2015, Expired December 2018)
- ◇ Attended AWS re:Inforce Conference (July 2019)
- ◇ Attended AWS re:Invent Conference (November 2012 & November 2016)

SKILLS

- ◇ Linux (Debian/Ubuntu & RHEL/CentOS), FreeBSD, macOS, Windows
- ◇ Bash (Shell), Python, Go (Golang), OCaml, Java
- ◇ TCP/IP protocol stack, VLANs, Routing Protocols (OSPF & BGP), VPNs (including WireGuard), DNS, DICOM
- ◇ VPC, Weave Net, Flannel, Open vSwitch (OVS), VXLAN
- ◇ Ansible, Terraform, CloudFormation, Docker, Puppet
- ◇ Kubernetes, ECS
- ◇ PostgreSQL, MySQL, Redis, Elasticsearch, Cassandra
- ◇ Classic ELB & ALB (ELBv2) & NLB, Nginx, Apache, Envoy, HAProxy
- ◇ Jenkins, CodePipeline, TeamCity, Spinnaker
- ◇ Elasticsearch, FluentD, & Kibana (EFK), Elasticsearch, Logstash, & Kibana (ELK), SumoLogic
- ◇ Prometheus, OpenMetrics, OpenTracing (Jaeger & Zipkin), AWS X-Ray, New Relic APM

PROFESSIONAL
ORGANIZATIONS

- ◇ Association for Computing Machinery
- ◇ Advanced Computing Systems Association (USENIX)