

DANIEL MAYFIELD

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SENIOR SOFTWARE ENGINEER

Accomplished technologist and proven leader with hands-on experience in large scale systems and delivering effective solutions to complex problems in large scale/high volume dynamic environments. Possess a broad-based technical background with deep knowledge of networking, data storage, distributed systems, cloud computing, virtualization and operating system internals. Seeking challenging opportunity to provide innovative solutions in a progressive environment. Core competencies include:

**Go | Open-Source Development | Networking and OS Internals | Databases | Large Scale Systems
AWS | Team Development | Process Improvement | Continuous Integration**

PROFESSIONAL EXPERIENCE

YAHOO (Formerly Verizon Media Group [2021], Formerly Oath [2017])
Senior Production Engineer (Anti-Spam Data Wrangler and E-Mail Deliverer)

Remote
7/2017 – 9/23

Provided leadership within the development team responsible for multiple reputation data stores for anti-spam systems: low latency/high throughput URL reputation system using Couchbase backend, and IP address reputation/quota system using PostgreSQL backend.

Responsible for Improving System Performance:

- ☐ Parallelized URL frontend parsing and lookup code using Structured Concurrency techniques
- ☐ Increased batching and parallelism to Postgres, converted client and server to use Apache Avro format (500x latency reduction)
- ☐ Built libraries for the team to use for: task sequencing of CPU intensive code in Go, X-Forwarded-Client-Cert parsing/validation, persistent MPMC queue in Couchbase for deferring updates to highly contested items, Zap logging encoder with near-zero memory allocation
- ☐ Built stateless, proxy-less load balancing system for storage gateway processes using Consul, DNS RRsets (“round robin DNS”), and modifications to HTTP client libraries to support health/cluster membership change detection. This work was selected to be presented at TechPulse
- ☐ Executed largest mailbox migration in history from AOL hosted systems to Yahoo hosted systems

Leadership and Team Development Duties:

- ☐ Documented APIs and data structures, and drove agreement across teams on usage of APIs
- ☐ Re-architected entire systems to be cloud-native, with a migration path from existing on-prem systems
- ☐ Drove creation and continuous improvement of standardized development environment using Docker Compose, including applications, database backends, sample/test data, and integration test suite
- ☐ Provided code review and advice to team members making changes to URL parser, feed parsers, logging systems, unit and integration tests
- ☐ Guided junior developers creating Machine Learning (ML) models of sender data to determine trustworthiness of specific mail headers

AOL
Senior System Administrator
Packet Pusher and Rack Wrangler

Dulles, VA
11/2013 – 7/2017

Senior member of the AOL MailOps team responsible for operation of SMTP and IMAP frontends, incoming and outgoing mail delivery, and anti-spam systems.

- ☐ Wrote TLS certificate deployment/synchronization tool.
- ☐ Automated away Couchbase operational headaches (cluster membership).
- ☐ Migrated old systems to use new (to AOL) tooling for authentication, TLS certificates, etc.
- ☐ Migrated gateway (SMTP, IMAP) racks to Layer 3 Direct Server Return (L3DSR) based VIPs, navigating packet flow through a distributed firewall using Policy Based Routing (PBR).
- ☐ Diagnosed TCP Microburst switch buffer problem and setup LACP for busiest gateway hosts to minimize switch buffer overruns.
- ☐ NAT API (Elastic IP-alike for own data centers, plus the ability to register for alternative Dynamic NAT pools).
- ☐ Implemented new anti-spam tooling to mitigate acute spam attacks as well as find new ways to reduce false positives for spam detection.
- ☐ Split monolithic mailbox system into early-stage micro-service design.
- ☐ Worked on early containerization of anti-spam and mail delivery components for high-density, geo-distributed deployment.
- ☐ Data replication and database redundancy work for mailbox data and metadata.

ADDITIONAL PROFESSIONAL EXPERIENCE

STEALTH 10 (Austin, TX): Cloud Server Engineer
EPICOR SOFTWARE (Austin, TX): Senior Systems Engineer
RGM ADVISORS (Austin, TX): HPC System Administrator
AMAZON.COM (Seattle, WA): Systems Engineer
US CENSUS BUREAU (Bowie, MD) Senior UNIX System Administrator
US WEATHER SERVICE (Camp Springs, MD): System Administrator
SERVER VAULT (Dulles, VA): System Administrator
CAPITOL ADVANTAGE (Fairfax, VA): System Administrator

EDUCATION

Bachelor of Science (BS) in Entertainment Business
Associate of Arts (AA) in Recording Arts
Full Sail University, Orlando, FL

TECHNICAL EXPERTISE

Databases: MySQL, PostgreSQL, Couchbase
Programming Languages: Go, Java, Python, SQL, Perl, Bash
Operating Systems: Linux (RedHat based), FreeBSD