Jason Bowman

San Francisco, CA

(205) 202-9668 sinistar@gmail.com sini sinistar sinistar

Overview

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

Education

The University of Alabama **Tuscaloosa, AL**

Masters of Science in Computer Science (MSc), College of Engineering *Dec 2012*

- *Select coursework:* Security · Cryptography · Advanced Computer Networking · Cloud Computing · Compilers

Bachelors of Science in Computer Science (BSc), College of Engineering *May 2011*

- *Minor in Mathematics*

Skills

- Proficient in application development with Scala, Java, Python, Go, C/C++, Ruby, and UNIX shell scripting.
- Experience with distributed systems, streaming data processing, security auditing, elastic computing, API design, performance optimization, graceful error detection and fault recovery, and full stack application development.
- Experience architecting, scaling, and optimizing high volume QPS applications in hyper-growth environments.
- Experience building developer experience tools, continuous integration systems, and production infrastructure services.
- Over 20 years experience with GNU/Linux and other UNIX platforms.
- Technical project management and organizational leadership experience.

Related Experience

UBER Technologies, Inc **San Francisco, CA**

Software Engineer *Jan 2015 - Present*

Marketplace Engineering // Fares *Nov 2016 - Present*

- Transferred to marketplace engineering to directly work on end-user facing product features spanning back-end services and mobile applications.
- *[Project Lead] Pricing Integrity Engine:* A platform for real-time and batch process data validation of auditable records for user fare data, supporting arbitrary business rules and constraints providing analytical data and automatic remediation.
- *Fares Platform:* Worked on the next generation fares platform powering all fare calculations for all products from UberX to Eats through a descriptive fare adjustment language DSL sourced from multiple providers such as tolls, maps, surge, subscriptions, and etc to meet current and future business product needs.
- *Promotions:* Worked on the Promotions platform team. Built auditing tools for post-transaction analysis of awarded user promotions and executed automatic remediation in the event any real-time systems had failed.

Site Reliability Engineering // Streaming SRE *Dec 2015 - Oct 2016*

- Senior engineer on the newly formed Streaming SRE team. Defined team OKRs and KPIs, responsible for onboarding and mentoring several junior engineers as we built out our Kafka infrastructure to a scale of several thousand brokers processing data at rates >500GiB/s across multiple regions.
- *[Solo Project] Kafka Intelligent Transformation Tool (K.I.T.T):*
  - Modified Kafka controller to optimally redistribute partition assignments. Defined models to generate near optimal data distribution, able to re-balance load to within a standard deviation of 0.0001%.
  - Automatic cluster expansion, on-line data rebalancing, and contraction when a broker fails; features not implemented in open source Kafka.
- *[Solo Project] Kafka Performance Optimization:*
  - Tuned Broker configuration, JVM options, Linux kernel flags and filesystem parameters, and hardware RAID controller alrignment. Modified broker network and disk I/O source code. Achieved an increase in maximum broker throughput of >500% over default configuration, and a 5000% decrease in p99 latencies up to that threshold.
  - *Outcome:* A reduction in hardware requirements reducing our operational costs by several hundred million dollars.

Platform Engineering // Data Engineering Embed *Jan 2015 - Dec 2015*

- Provided direct support to the Data organization, which accounted for more than 30% of UBER's overall hardware footprint. Built automation tooling for provisioning, data replication, ETL, and cluster management for numerous technologies including Vertica, Hadoop, Redis, MemSQL, and other data stores.
- Designed architecture and tools to ensure data security and integrity, as well as compliance with local regulations, as we expanded from one data center to many and entered new market regions such as China, India, and Russia.
- *[Solo Project] uServer:* A service for self-service hardware provisioning, enabling engineers to manage their own hardware reducing their dependence on the platform engineering team. The service was adopted company wide and has been used to provision 100's of thousands of bare-metal hosts over the last several years.

Related Experience - Continued

Rocket Lawyer — **San Francisco, CA**
Senior Systems Engineer (original title: Systems Engineer) — *Jan 2013 - Jan 2015*

- Designed service infrastructure and provided 24/7 on-call support for a high volume e-commerce site in the legal services sector, running primarily on the JVM and a legacy .NET platform. Improved site reliability from 99% uptime to 99.99% and reduced p99 latencies from 2000ms to 150ms.
- Performance analysis and optimization of application services and supporting infrastructure services.
- Extended application code to expose internal application state, key performance metrics, enrich logging, and reduce overall latencies. Implemented dynamic service discovery and reconfiguration via ZooKeeper.
- Built tooling for continuous integration, dynamic configuration management, deployment management, monitoring, and automated incident detection and remediation.

nine.is — **Tuscaloosa, AL**
Software Engineer / Web Developer — *Jan 2012 - Dec 2012*

- Development and maintenance of multiple existing and new projects for this small design company in a several languages and frameworks including PHP, JavaScript, and Ruby on Rails.
- Built and led a team of junior engineers to transition nine.is from an outsource contract based operation to doing their own in-house software development.

The University of Alabama — **Tuscaloosa, AL**
Graduate Research Assistant — *Jan 2010 - Dec 2012*

- Research on proactive and adaptive techniques for cross-layer network reconfiguration in an effort to optimize performance when a network is under load or attack by hostile actors. Project details subject to export control restrictions.
- Worked on the Linux networking stack, defining a custom TCP variant routing protocol, and physical device driver modification for fine parameter tuning and performance analysis.
- Security analysis and architecture design for GENI, a global network research experimentation test-bed for developing new internet routing technologies.

Brewer Porch Children's Center — **Tuscaloosa, AL**
Unix Systems Administrator — *Aug 2004 - May 2006*

- Managed numerous services including samba, mail, file, billing, print, web, and applications servers running on Linux, Solaris, and Microsoft Server systems.
- Maintained strict networking and client security policies in compliance with HIPAA regulations.
- Developed custom applications for internal organization management and patient document processing.

Publications

- Dawei Li, Jason Bowman, Xiaoyan Hong "Evaluation of Security Vulnerabilities by Using ProtoGENI as a Launchpad", IEEE Globecom 2011, Houston, USA, Dec. 2011.
- M. Anderson, P. Kilgo, and J. Bowman. "RDIS: Generalizing domain concepts to specify device to framework mappings." In International Conference on Robotics and Automation, 2012. http://ua-robotics.net/index.php?title=RDIS

Outreach and Community Involvement

- Mentor for Hackbright Academy, a 12 week intensive coding bootcamp focused on empowering women aiming to pursue a career in the software engineering field.
- Mentor for dev/Mission, a non-profit program targeting low income youth from 16-24 to expose them to potential careers in technology.
- Organized and ran an introduction to Scala and Functional programming course based on Martin Oderskyś course and book. Resources available on my personal github.
- Served as president from 2010 - 2012 of the Association for Computing Machinery student chapter at The University of Alabama.
- Organized a mentoring/tutoring program for freshman and sophomore computer science students in an effort to improve program retention and graduation rates. Still going to this day, and graduation rates of freshman classes are up from 5% to nearly 50%.

Interests

- **Professional:** GNU/Linux· Distributed Systems · Open Source · System Architecture · Operating Systems · Functional Programming · Stream Processing · Virtualization · Generative Programming · Language Development
- **Personal:** Reverse Engineering · Game Development & Theory · Music Production · Electrical Engineering · Fabrication and DIY · Robotics · Mechanical Keyboards · CAD Design · Rock Climbing · Emacs