

Experience

Senior Software Engineer (SRE Focus) **Discord** June 2021 - Present

- Developed a hybrid block storage solution on top of cloud hardware, cutting database read latency by 2x, reducing infrastructure complexity, and simplifying backup management - worked with representatives from Google Cloud to verify and promote the system to production

Software Engineer (SRE Focus) Sept 2019 - June 2021

- Replaced instances of Apache Cassandra with ScyllaDB, minimising user impact, ensuring critical data integrity, and avoiding regressions throughout the process
- Built Terraform tooling to enforce consistent behaviour, simplify the workflow for users, and detect drift between the code and production infrastructure

Site Reliability Engineer **Thumbtack** July 2015 - Sept 2019

- Integrated service mesh technology into Thumbtack to enable increased performance visibility and new traffic shaping features, powered by Envoy Proxy and a custom control plane - involved the debugging of subtle networking and gRPC issues
- Created AWS virtual networks and supporting systems as part of a company-wide infrastructure update designed to isolate different environments and provide a more stable experience for developers and a more reliable product for users
- Built tooling on top of PostgreSQL to provide scrubbed production-like data to developers in near real time, leveraging Docker, ZFS, and AWS services to stream, snapshot, and run highly scalable PG instances
- Designed and implemented a canarying system for apps that allows for fine-grained control over traffic routing, supported by Nginx alongside a custom service and fully integrated with Thumbtack's CI system
- Led the effort towards uniform monitoring across engineering, replacing the brittle in-house solution with a hosted solution and developing monitoring best practices

Software Engineer June 2014 - July 2015

- Designed and implemented product changes to improve the core matching system, including user-facing onboarding changes, re-evaluation of the incentives system, and criteria changes for notifications
- Re-designed part of the A/B testing system, routing data through Hadoop and reading/rendering the result of batch analytics jobs using a Go service (replacing the old monolithic Python service)

Technical Intern **Nebula** June 2013 - August 2013

- Enhanced Python-based unit and functional test suite to allow for quicker testing and the production of succinct but informative test results and code coverage
- Developed Collectd plugins to visualize physical and virtual machine usage through the Graphite realtime graphing system, allowing developers to easily identify when and where problems occur in the system
- Redesigned disk image building system (porting from Python to Make), removing redundancies and enabling partial builds, drastically reducing the build time in a key part of the system

Summer Technical Analyst **Bank of America** June 2012 - August 2012

- Designed and prototyped a secure file syncing application for iOS utilizing BoA cloud storage
- Began investigation into automated testing for the iOS team using Xcode's built-in tooling
- Configured internal Q&A platform for dissemination of information with custom SSO integration

Education

Ewing, NJ **The College of New Jersey** August 2010 - May 2014

- BS in Computer Science with a 3.73/4.00 GPA
- Courses: Advanced Algorithms, Microcontrollers, Cloud Computing, Computer Graphics, AI, HCI

Skills

- **Technologies:** *NIX, Docker, PostgreSQL, Cassandra, Memcached, Redis, Terraform, Salt, Puppet, Git
- **AWS Services:** DynamoDB, EC2, ECS, IAM, Route53, S3, SQS, VPC, Lambda
- **GCP Services:** GCE, GCS, IAM, Cloud Networking, CloudSQL, Dataproc
- **Languages:** Python, Haskell, Go, Rust, JavaScript, TypeScript, C, Bash, SQL
- **That Other Stuff™:** Running, Flying Trapeze, Game Development

Projects / Contributions

Cross-Count — <https://goakley.itch.io/cross-count>

- Cave-style puzzle game for web and Android developed independently
- Pure TypeScript implementation of a UI system and animation on top of the HTML canvas

Datadog (Haskell) — <https://github.com/iand675/datadog>

- Haskell client library for Datadog
- Contributed to the HTTP API wrapper

Affiliations

Executive Team	Harmonious Elements / BABSCon	2015 - Present
Engineering Fellow	Kleiner Perkins Caufield Byers	2013
Chapter Board Member	Association for Computing Machinery	2011 - 2014