

DAVID LU

BACKEND DEVELOPER

david-lu.com — github.com/DavidLu1997 — linkedin.com/in/davidlu97

SKILLS

Languages Go, C++, C, Ruby, Java, JavaScript, Python

Frameworks & Tools Kafka, Redis, DynamoDB, Docker, zsh, vim

EXPERIENCE

Datadog — Backend Engineering Intern (Metrics Query Team) Sept – Dec 2017

- Developed a self-adjusting query throttler to ensure availability using a custom token-based algorithm
- Migrated a time series database interface from Go to C to reduce write latency and memory allocations
- Sped up metric queries by developing server-side data aggregation with gRPC
- Doubled data point intake capacity from Kafka by implementing lock-free concurrent writes

Remind — Backend Engineering Intern (Engagement Team) Jan – Apr 2017

- Created a storage service for unread message counts with a Redis-compatible API backed by DynamoDB
- Implemented emoji-based message reactions over SMS to increase daily active users by 20%
- Improved performance of key services including scheduled broadcasts, link shortening, and message statuses
- On-call weekly as part of the backend engineering rotation

Mattermost Inc — Full-Stack Developer Intern (Platform Team) May – Aug 2016

- Implemented an event tracking pipeline using the Segment API in Go to facilitate analytics
- Enhanced user retention by improving the self-hosted setup process, new user signup flow, and built-in tutorial
- Replicated Slack's UX by building a superset of Slack keyboard shortcuts and other tooling in React

PROJECTS

Fast Shortener — github.com/DavidLu1997/fast-shortener

- Created an in-memory link shortener in Go optimized for high throughput and low overhead
- Benchmarked locally at 350K writes/second and 1.2M redirects/second

ScanGrader — github.com/DavidLu1997/ScanGrader

- Developed an automatic grader for multiple choice tests with 95% accuracy on 50-question Scantrons
- Created portable image recognition interfaces using C++ and implemented multi-platform support with Qt

EDUCATION

University of Waterloo, Candidate for Bachelor of Software Engineering

2015 – 2020