

# Katie Siegel

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## EDUCATION

### Massachusetts Institute of Technology

2012-2016

M.Eng., Computer Science with a concentration in computer systems, 2016 (GPA: 5.0/5.0)

- Thesis: Incremental Random Forest Classifiers in Spark (supervisor: Prof. Sam Madden)

S.B., Computer Science and Engineering, 2016 (GPA: 5.0/5.0)

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## SKILLS

**Programming Languages** C, Go, HTML/CSS, Java, JavaScript, Objective C, Python, Typescript

**Frameworks and Tools** Flask, GDB, Git, GraphQL, iOS,  $\text{\LaTeX}$ , node.js, React, SQL,

**Selected coursework** Computer Vision, Database Systems, Distributed Systems, Machine Learning, Mobile and Sensor Computing, Online Methods in Machine Learning, Performance Engineering, Web Software Studio

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## EXPERIENCE

### Samsara | Tech Lead

San Francisco | July 2016-present

As the engineering lead of the Routing and Dispatch team, I created and maintained team roadmaps, wrote technical specs for projects, and implemented backend features. Tech stack: Go, GraphQL, and React (Typescript).

- Created a microservice that updates tasks dispatched to drivers as complete upon arrival (among other metadata). Deployed microservice on Amazon ECS using Terraform.
- Implemented a system for configuring and generating recurring scheduled delivery routes.
- Designed and led the conversion of service-to-service RPCs to use gRPC.
- Designed and implemented the software infrastructure, backend, and interface for the Samsara Dashcam product (launched Feb 2017). Was the sole software engineer working on the dashcam product for 5 mos.
- Implemented a backend system for detecting compliance violations among a fleet's drivers. Allowed mobile app to access system logic while offline by transpiling Go code into Javascript.
- Led a push to convert frontend Javascript code into Typescript.
- Contributed to internal GraphQL infrastructure.
- Created a microservice for rendering and sending scheduled emails; deployed service on Amazon ECS.
- Created an analytics dashboard showing an overview of customers' commercial fleets.
- Added other full-stack features to web application, including reports, speeding analytics, and alerts.
- Helped lead and structure recruiting efforts for 11 months on the engineering side. Included reviewing resumes, creating a new comprehensive set of technical interviews, and onboarding recruiters.
- Created an onboarding program for new engineering hires.
- Mentored an intern and a new hire.

### MemSQL | Query Execution Infrastructure Intern

San Francisco | June-Aug 2015

- Optimized hash joins by implementing and integrating a grace hash table.
- Implemented spilling to disk during hash joins using a custom allocator.
- Conducted performance analysis of query execution optimization strategies.

### Dropbox | Mailbox iOS Intern

San Francisco | June-Aug 2014

### Square | Information Security Intern

San Francisco | June-Aug 2013

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## RESEARCH AND SELECTED PROJECTS

**H-Store** Implementation of replication strategies in H-Store, a research effort in the MIT Databases Lab.

**Zauberflöte** Distributed peer-to-peer content delivery system utilizing WebRTC and a BitTorrent-like tracker.

**SkipChat** A secure, distributed, bluetooth peer-to-peer messaging service that hops network discontinuities.

**nunchuck.js** Open-source library for real-time hardware data synchronization between mobile and desktop browsers.