

# Akshat Mahajan

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(infrastructure & systems)

akshatm.com

## CURRENT

### Brown University

Masters of Science, Computer Science

Providence, RI

Jan. 2020 - Dec. 2021

- Created [Gbox](#), a prototype service mesh proxy capable of coordinating distributed sagas, solving a major problem in migrating monoliths to microservices.
- Working on implementing data flow assertions into gRPC and protocol buffers, allowing services to prevent leaks of user's personal identifying information
- Characterizing the most prominent factors preventing widespread adoption of Kubernetes operators through administrator surveys and GitHub issue analysis

## EXPERIENCE

### PlanGrid → Autodesk (acquisition)

DevOps/Infrastructure Engineer

San Francisco, CA

9/2017 - 7/2019

- Developed and operated self-hosted Kubernetes clusters; managed networking, routing and platform reliability for over 100+ services on ~ 50 AWS nodes
- Contributor to Netflix's Spinnaker - [refactored](#) Netflix's Spinnaker monitoring and shipped custom Datadog tags as first-class feature
- Implemented a 97.9% improvement in RTO/RPO of multi-TB Postgres databases through architecture overhaul
- Built infrastructure-as-a-service with Salt, Cloudformation and Terraform; undertook VPC design and Postgres load balancing for new Australia datacenter
- Automation tooling development with Python, Docker, bash e.g. network circuit breakers, DNS failover with healthchecks, diff generation for production changes.

### BrightEdge Technologies

DevOps Engineer

San Mateo, CA

7/2016 - 9/2017

- Sole maintainer of distributed data ingestion pipeline on HDFS/Hbase; generated individual SEO recommendations for 30-40 million URLs weekly.
- Improved monitoring tooling latency by 96% after implementing priority queueing that "remembers" slow queries and diverts them to specialised channels.
- Quintupled network throughput (200 MB/s → 1 GB/s) by implementing Thrift serialization for Python code talking to Hbase over fixed bandwidth cables.
- Built out AWS fallback nodes for data pipelines colocated in physical datacenters + staging environment from scratch for monolithic data services.
- Implemented pre-commit linting, test runner execution and Redux-based caching web components for React developers.

## PERSONAL PROJECTS

### Open Source

[CHR](#), a pure-Python consistent hash ring implementation designed for pedagogical purposes, implemented completely from scratch with no advanced builtins.

[caprice](#), a Go client for RANDOM.org's API, capable of generating truly random non-deterministic data for cryptographic purposes.

[wildcard-import-fixer](#), a command-line refactoring utility to automatically find and fix wildcard imports from Python code

More projects available at <https://github.com/AkshatM>

## EDUCATION

### University of California, Los Angeles (UCLA)

Bachelor of Science, Physics,  
cum Laude with College Honours

Los Angeles, CA

July 2012 - June 2016

## DISTINCTIONS

**Top Writer 2016 and 2017**, [Quora](#)

2016-2017

**7K+ Reputation**, [Stack Overflow](#)

2016-Present

**2015 Sharpe Fellow**, University of California, Los Angeles

October 2014

**NASA Planetary Data System Fellowship**, NASA/UCLA

2013-2015