

Akshat Mahajan

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(Go, Python, systems)

akshatm.com

CURRENT

Brown University

Masters of Science, Computer Science

Providence, RI

Jan. 2020 - Dec. 2021

- *Distributed Systems Research*: [Modifying gRPC and protocol buffers](#) to have data flow assertions, preventing sensitive information leaks across microservices
- *Distributed Systems Research*: Created a [prototype service mesh proxy](#) capable of coordinating distributed sagas, simplifying monolith to microservice migrations

EXPERIENCE

PlanGrid → Autodesk (acquisition)

Site Reliability 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 across 2 intl. data centers
- Implemented a 97.9% improvement in disaster recovery objectives 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

Distributed Systems Engineer

San Mateo, CA

7/2016 - 9/2017

- Sole maintainer of distributed data ingestion pipeline on HDFS/Hbase; managed Yarn-based batch processing for 30-40 million requests weekly.
- Slashed database monitoring latency by 96% by 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 cloud redundancy for data pipelines colocated in physical datacenters + staging environment from scratch for monolithic data services.

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

[Contributor to Netflix’s Spinnaker](#), allowing developers to add custom Datadog tags as first-class feature in its monitoring ecosystem

[Contributor to Hashicorp’s Packer](#), allowing developers to attach multiple temporary security groups in AWS AMI builds

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

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

2016-Present

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

2016-2017

2015 Sharpe Fellow, University of California, Los Angeles

October 2014

NASA Planetary Data System Fellowship, NASA/UCLA

2013-2015