

# Sumer Kohli

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## EDUCATION

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### Stanford University

GPA: 4.06

M.S., Computer Science (Distributed Systems & Machine Learning)

Sep 2022 – June 2024

- **Distinctions:** Guaranteed Course Assistantship (full financial support, awarded to the top admitted students).
- **Relevant Coursework:** CS349D (Cloud Computing); CS149 (Parallel Computing); CS217 (Hardware Acceleration for ML); CS140E/240LX (Adv. OS Development); CS144 (Networking); CS242 (Programming Languages); CS243 (Adv. Compilers)

### University of California, Berkeley

GPA: 4.00

B.S., Electrical Engineering & Computer Sciences

Aug 2018 – May 2022

- **Distinctions:** Highest Honors; 2021 Outstanding GSI Award; CalHacks Prize Winner (4x); HackMIT Prize Winner (2x)
- **Relevant Coursework:** CS170 (Algorithms); CS162 (OS & Systems); CS189 (Machine Learning); CS161 (Security); CS186 (Databases); CS61C (Computer Architecture); CS61B (Data Structures); EECS127 (Optimization Models); EECS126 (Probability)

## EXPERIENCE

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### Databricks Inc.

San Francisco, CA

Software Engineer Intern

Jun - Sep 2023

- Improved Unity Catalog view performance by 2 to 15× on shared clusters by introducing multi-level caching of dependency DAGs.
- Designed and deployed a new batch endpoint to linearly reduce table credentialing latency and database load for views, computing batch size and view-table dependent pairing (heuristically, as problem is NP-complete) to optimize entity cache performance.

### Roblox Corp.

San Mateo, CA

Software Engineer Intern

Jun - Aug 2022

- Delivered a Rust and C# implementation of a bulk update operation for the core storage layer that can scale to 100K+ QPS and provides a linear latency reduction with respect to batch size, unblocking migration onto our next-gen storage infrastructure.
- Created an accessible and feature-complete Rust template for gRPC backend services, reducing Rust onboarding time to minutes.

### Citadel LLC

New York, NY

Software Engineer Intern

Jun - Aug 2021

- Engineered a Kafka trade pipeline in Java for regulatory reporting that parses, transforms, and transports up to 6B trades/day.
- Built a Java library and accompanying write-behind cache to replay misprocessed Kafka messages, critical for error handling.
- Rigorously tested pipelines and replay library due to zero industry error tolerance for missing trades, and deployed to production.

### University of California, Berkeley

Berkeley, CA

Teaching Assistant for EECS16A (Fall '19, '20), 16B (Spring '20), and CS61B (Spring '21 to Spring '22)

Aug 2019 - May 2022

- Led development of group matching software that has been used during COVID semesters by classes totaling over 5,000 students. I co-authored and published a conference research paper on its efficacy. Won the 2021 Outstanding GSI Award.
- Jointly led the core infrastructure team to support 1,000+ students and 40+ staff, designing and writing software as needed.
- Taught discussion sections, labs, and office hours, and was rated markedly above (4.81/5) the course staff average (4.64/5).

### Microsoft Inc.

Sunnyvale, CA

Software Engineer Intern

Jun - Aug 2020

- Designed, developed, and deployed a new customer-facing Azure Communications service using C#/ASP.NET with my team, and a fully-featured UI using React/TypeScript (further details under NDA). Won the 2020 Garage Team Hero award.
- Implemented a C# backend for automatic ML-based captioning for the Windows Photo app with 300M+ yearly users.

### Lawrence Livermore National Laboratory

Livermore, CA

Computational Scholar Intern

Jun - Aug 2019

- Researched and developed a Python-based key-escrow server on AWS and Docker to enable Full Disk Encryption (FDE) on the Lab's 3,500+ Macs, greatly improving operational security in response to escalating state-sponsored cyberattacks.
- Integrated and documented a REST API to enable authenticated access to user, machine, and recovery key metadata.

### Nutanix Inc.

San Jose, CA

Software Engineer Intern

Jun - Aug 2015, Jun - Aug 2017

- Developed a performant Python and MySQL backend to process and store over 1 million product telemetry data points a day.
- Built a fully-featured web interface to tabulate and visualize gigabytes of product telemetry in near real-time for 2,000+ customers.
- Implemented reliable logging of core processes in C++, preventing potential catastrophic data loss during cluster imaging.

## SKILLS

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**Languages** C/C++, Python, Java, JavaScript/Node.js, Go, Rust, Scala, TypeScript, Objective-C, C#, Shell, OCaml, R

**Technologies** AWS, GCP, Heroku; Docker, Kubernetes, Spark; MongoDB, MySQL, PostgreSQL; React, AngularJS, Vue.js

**AI/ML** TensorFlow, PyTorch, Keras; LASSO, ANOVA, Kalman Filter; CNN, R-CNN, GNN, Transformer, BERT