Sumer Kohli

/in/sumerkohli | sumer.kohli@berkeley.edu | @firebolt55439
Saratoga, CA 95070 | (408) 621-6422

Education

University of California, Berkeley GPA: 4.00
B.S., Electrical Engineering & Computer Sciences *Aug 2018 – May 2022*

- **Distinctions**: 2021 Outstanding GSI Award; Dean's List (3x); CalHacks 6.0 Prize Winner; Edward F. Kraft Award
- **Organizations**: Cal Launchpad (AI/ML); DevOps @ Berkeley (VP of Tech); Data Science Society of Berkeley
- **Relevant Coursework**: CS170 (*Algorithms*); CS162 (*OS & Systems*); CS189 (Machine Learning); CS161 (Cybersecurity); CS186 (Databases); CS188 (*Artificial Intelligence*); CS61C (*Computer Architecture*); CS61B (*Data Structures & Algorithms*); EECS127 (Optimization Models); EECS126 (*Probability)*; EECS16A/B (*Electronic Systems*); Math 53 (*Multivariate Calculus*)

Experience

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 EECS 16A (Fall '19, '20), 16B (Spring '20), and CS 61B (Spring '21) *Aug 2019 - present*

- Led development of group matching software that has been used during COVID semesters by classes totalling over 5,000 students. I am co-authoring a research paper on its efficacy to publish to SIGCSE '22. Won the 2021 Outstanding GSI Award.
- Developed a Python circuit simulation package enabling programmatic circuit construction, LaTeX circuit rendering, and both symbolic and numeric analysis in Jupyter notebooks for the 1100+ students in the course.
- 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.
- Programmed a client-side service in Swift to enforce FileVault enablement on the 3,500+ employees, ensuring compatibility with YubiKey-based multi-factor authentication (MFA) while enabling instant roll-out of critical settings updates.
- Integrated and documented a REST-based API to enable authenticated access to user, machine, and recovery key data.

Nutanix Inc. San Jose, CA
Software Engineer Intern *Jun - Aug 2015, Jun - Aug 2017*

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

Publications

From Warm to Hot Starts: Leveraging Runtimes for the Serverless Era Feb 2021
Joao Carreira, **Sumer Kohli**, Rodrigo Bruno, and Pedro Fonseca. 2021. From Warm to Hot Starts: Leveraging Runtimes for the Serverless Era. In *Workshop on Hot Topics in Operating Systems (HotOS 21)*. https://doi.org/10.1145/3458336.3465305

Skills

Languages	C/C++, Python, Java, JavaScript/Node.js, TypeScript, Go, Swift, Objective-C, C#, Shell, Rust, Wolfram, R
Technologies	AWS, Docker, Heroku; MongoDB, MySQL, PostgreSQL; React, AngularJS, Vue.js
AI/ML	TensorFlow, PyTorch, Keras; SVM, Random Forests, LASSO; CNN, LSTM, GAN