



# Boris Alguliev

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## education

### University of California, Berkeley

June 2018 — May 2020

B.S., Electrical Engineering & Computer Sciences

### City College of San Francisco

August 2016 — May 2018

A.S., Math, Physics, and Computer Science

## proficiencies

Java ●●●

C ●●●

Python ●●○

Go ●●○

SQL ●●○

Swift ●○○

## projects

**Mobile App** ([Link](#)) — Dart, Flutter: An original design using Google's cross-platform UI toolkit—a mobile version of the Yi Jing, a three-millennia old text. Allows for interactive consultations, saving, and annotating readings.

**Custom Keyboard** — C: Combined hardware and software to make my ideal keyboard. Custom firmware with macros and layers on a custom layout focused on increasing productivity. Uses open-source QMK firmware.

**Physic Simulations** ([Link](#)) — Python: Interactive visual physics simulations hosted on [glowscript.org](https://glowscript.org) to help teach physics concepts such as phasor analysis and ray tracing off of spherical mirrors.

**OS Kernel** — C: Modified the Pintos operating system, a codebase of over 50,000 lines of code, adding process spawning, system calls, thread scheduling, interrupt handlers, virtual memory growing and shrinking, an inode-based file system, and kernel implementations of locks, semaphores, and condition variables.

**E2E Encrypted File Sharing** — Go: Designed and implemented a file sharing system that uses cryptographic techniques to maintain confidentiality, integrity, and authenticity, even on an adversarial network and server.

## relevant coursework

Operating Systems & Systems Programming

Data Structures & Algorithms

Database Systems

Efficient Algorithms & Intractable Problems

Computer Security

Artificial Intelligence

## experience

### Private Tutor, Physics and Computer Science

August 2019 — Present

- Created semester plans for high school and college students based on learning styles and strengths.
- Compiled and created study materials such as equation sheets and assignments.

### Lab Assistant for the Structure and Interpretation of Computer Programs

August — December 2018

at UC Berkeley

- Provided support to academic staff in teaching the introductory computer science course CS61A.
- Offered one-on-one tutoring during office hours and administered group-based activities.

### Tutor of Physics, Math, and Computer Science

October 2016 — May 2018

at the City College of San Francisco

- Provided drop-in tutoring services, both individual and group based, for fellow students.
- Worked to improve graduation rates among under-represented groups and communities.

## honors

**Tau Beta Pi Engineering Honor Society** at UC Berkeley

Fall 2018 — Present

**Transfer Scholarship** from UC Berkeley

Summer 2018

**Alpha Gamma Sigma Honor Society** at the City College of San Francisco

Spring 2017 — Spring 2018

