



# Brian Kim

UC Berkeley Class of 2022  
Computer Science Major, Statistic Minor

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Portfolio: <https://s3kim2018.github.io/BrianKim-Website/>  
Github: <https://github.com/s3kim2018>

## Coursework

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**CS61A:** Structure and Interpretation of Computer Programs  
**CS61B:** Data Structures  
**CS70:** Discrete Math and Probability Theory

**CS61C:** Machine Structures  
**EE16A:** Designing Information Systems  
**Stats134:** Concepts of Probability

## Projects

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### Graph Traversal Visualizer - Javascript/CSS/HTML

- Built a web application that visualizes graph traversal algorithms
- Designed a UI where the user can choose the grid density and place walls and weights on nodes
- Visualizes BFS, DFS, Dijkstra's, A\*, and Kruskal's algorithm

### Chess Engine - Javascript/CSS/HTML

- Built a full Chess Game Engine with an UI. Chess rules like promotion and castling were implemented
- Using game trees and alpha beta pruning, built an AI that can look 3 moves forward

### RouteSafe (TreeHacks 2020) - Swift/Javascript/Firebase/MapKit

- Built an iOS app that makes driving safer by providing navigation that considers safety in route-picking
- Worked on the backend (HTTP requests, Hashing live data, firebase integration, choosing best route)

### Gitlet - Java

- Replicated most of Git's features such as committing, branching, and creating a remote repository
- Commits were hashed with SHA-1, and serialized on the ".gitlet" folder

### Differential Problems Generator - Python

- Using a recursive data structure, built a python script that can generate derivative problems
- The length, numbers, symbols used are all randomly generated
- Teacher has the preference to select the intensity of the types of problems generated

### FEC Campaign Contributions Web Mining Program - Python/Beautiful Soup

- Used Beautiful Soup to mine campaign contribution data over many years to congressional candidates
- After scatter-plotting the graph, concluded that the Citizens United case increased contributions drastically

## Work Experience

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### Web Assistant for Berkeley's Division of Diversity and Inclusion - March 2019 ~ Present

- Updated information, notified events, and supported the website's operational requirements
- Created the blog for Vice Chancellor Oscar Dubón, Jr (hasn't made any blog posts yet)

### Academic Intern - (CS61A, CS61B), January 2019 ~ Present

- Helped 30+ students learn about OOP, recursion, and data structures
- Emotionally supported students who were struggling in CS classes

### UC Berkeley Call Center - March 2019 ~ Present

- Called UC Berkeley Alumnus in Engineering, Law, and CNR for fundraising purposes
- Personally raised more than \$5000 for the University

### The Daily Californian Projects Developer - March 2019 ~ Present

- Brainstormed creative content about the Bay that could be put on the site with some front-end work
- Currently working on a data analysis/visualization project on the air quality in Berkeley

## Skills

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### Fluent in Data Structures and Programming

- Linked Lists, Trees, Bitwise Operations, Hashing, Graph Traversal, Pathfinding
- Able to build large scale programs (most recent individual projects are +2000 lines of code)
- Able to build secure programs with RSA, Secret Sharing, and cryptographic hash functions

### Experience in UI Design

- Have maturity in designing webpages that are flexible and animated

**Experienced in:** Java, Python, C++, HTML, CSS, and Javascript

**Familiar with:** R-Studio, Scheme, SQL, JQuery, React, Electron, and Firebase

## Extracurricular Activities and Community Service

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### **Berkeley Political Review** - *December 2018 ~ June 2019*

- As a member of the tech team, worked on data analysis quests to prove political statements

### **Intern for the Ramsar East Asia Center** - *June 2017 ~ August 2017*

- Translated documents from Korean to English
- Assisted with public events in order to raise awareness and encourage the preservation of wetlands

### **Eastern Maine Medical Center Assemble** - *December 2017 ~ June 2018*

- With my small friend group, played the violin for patients suffering from Alzheimer's

### **Habitat for Humanity** - *December 2017 ~ June 2018*

- Hosted and organized events such as running a bake sale and a car wash
- With the money raised, went to the Philippines to build portable houses for struggling communities