**Brian Qi**

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**EDUCATION**

**University of California, Berkeley** B.A. in Computer Science, College of L&S Expected May 2021

**Overall GPA: 3.95** B.A. in Data Science, College of L&S

Relevant Coursework: Data Structures, Algorithms and Complexity, Discrete Math and Probability, Linear Algebra, Data Science and Machine Learning, Programming Languages

**EXPERIENCE**

**Software Developer – Pioneers in Engineering (Berkeley, CA)** 09/2017 – Present

* Assisted in building a new field control system (Shepherd) for the Pioneers in Engineering strategy robotics competition
* Wrote methods in Python to open LCM channels and send/receive information between the main state machine, the scoreboard, and sensors in order to establish inter process communication
* Documented and designed LCM communication with modularity in mind so that future iterations will be able to modify the Shepherd project instead of rebuilding from scratch
* Helped design the front-end interface for competitions using HTML, CSS and JavaScript

**Junior Mentor** **– Computer Science** **Mentors (Berkeley, CA)** 01/2019 – Present

* Responsible for teaching two weekly auxiliary sections concepts from CS 70 – Discrete Math and Probability
* Met with students one-on-one for more personalized academic and personal support and worked on task force to provide extra services such as review and midterm prep sessions

**Academic Intern** **– UC Berkeley Department of EECS (Berkeley, CA)**08/2018 – 12/2018

* Delivered lectures to undergraduate students on topics such as programming, data structures, and software design
* Initiated, facilitated, and moderated classroom discussions in a class size of 25+ students
* Maintained regularly scheduled office hours (1.5-3 hours/week) to advise and assist students with course material

**PROJECTS**

**Bear Maps** –Java, Python

* Utilized real-world mapping data to implement the back end of a Java web mapping application
* Performed rastering, routing and graph traversals using quad trees and the A\* algorithm to find suggested navigation
* Functionalities implemented include scrolling, zooming, autocomplete, and route finding

**Gitlet** – Java

* Created a slim version-control system that closely mimics Git’s features (i.e. commit, branch, merge, log and status)
* Used Java’s serializable interface and cryptographic hash functions to design internal file structures

**Scheme Interpreter** –Python

* Developed an interpreter for a subset of the Scheme language using Python
* Interpreter supported call expressions and special forms (i.e. define, define-macro, cond, let, begin, lambda, mu)

**Yelp Restaurants** – Python

* Created visualization of restaurant ratings using machine learning and the Yelp academic dataset
* Used a Voronoi diagram to section Berkeley into regions shaded by the predicted rating of the closest restaurant

**Ants vs. Some-Bees** – Python

* Engineered own version of a popular tower defense game using functional/object-oriented programming paradigms

**HONORS**

**Dean’s Honor List** Spring 2018 – Present

**Upsilon Pi Epsilon (UPE): Computer Science Honor Society** Spring 2019 – Present

* Facilitated private academic tutoring and office hours for engineering students to succeed in lower division courses

**SKILLS**

**Proficient:** Java, Python (numpy, scipy, Jupyter, pandas, ray), SQL

**Familiar:** CSS, Git, HTML, JavaScript, Scheme, LaTeX