

BRIAN QI

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EDUCATION

University of California, Berkeley	Computer Science, Bachelor's	Expected May 2021
Overall GPA: 3.96/4.00	Data Science, Bachelor's	
Relevant Coursework: Data Structures, Algorithms, Software Engineering, Data Science and Machine Learning, Programming Languages, Artificial Intelligence, Discrete Math and Probability, Machine Structures, Linear Algebra		

WORK EXPERIENCE

Software Engineering Intern – HelpWear (Toronto, Canada)	06/2019 – 08/2019
<ul style="list-style-type: none">• Collaborated with product management, design and engineering teams to develop and test critical software for a wearable heart monitoring system using agile practices and test-driven development• Developed a program that generates patient reports from raw ECG data for cardiologists to analyze (Python, SQL)• Optimized code for ECG segmentation, increasing processing speed by 25 times and segmentation accuracy by 30%• Created algorithms to detect heart beats and irregular heart rhythms for mobile app and patient reports (Python)	
Software Engineer – Pioneers in Engineering (Berkeley, CA)	08/2017 – Present
<ul style="list-style-type: none">• Participated in the development of a new field control system for the Pioneers in Engineering robotics competition• Established inter-process communication by building intermediate Python servers to connect LCM channels to the staff controls GUI, scoreboard GUI, and robot runtime program• Designed and implemented the front-end interface for competitions used by 350+ participants each year	
Junior Mentor – Computer Science Mentors (Berkeley, CA)	01/2019 – Present
<ul style="list-style-type: none">• Taught concepts from CS 70 (Discrete Math and Prob. Theory) to 2 auxiliary sections of 5 students every week• Provided extra services such as review and midterm prep sessions to 700+ students	
Academic Intern – UC Berkeley Department of Electrical Engineering & CS (Berkeley, CA)	08/2018 – 12/2018
<ul style="list-style-type: none">• Delivered lectures to students on CS fundamentals such as object-oriented design, data structures and algorithms• Maintained regularly scheduled office hours (2-3 hours/week) to advise and assist students with course materials	

PROJECTS

Gitlet – Java
<ul style="list-style-type: none">• Built a slim version-control system that mimics features from Git (i.e. commit, branch, merge, log, status)• Used Java's serializable interface and cryptographic hash functions to design internal file structures
Bear Maps – Java, Python
<ul style="list-style-type: none">• Utilized real-world mapping data to implement the back end that powers the API of a Java web mapping application• Performed routing and graph traversals using quad trees and the A* algorithm to find suggested navigation• Implemented core functionalities include scrolling, zooming, autocomplete, and route finding
Scheme Interpreter – Python
<ul style="list-style-type: none">• Programmed an interpreter for a subset of the Scheme language using Python• Interpreter supports call expressions and special forms (i.e. define, define-macro, cond, let, begin, lambda, mu)
Yelp Restaurants – Python
<ul style="list-style-type: none">• 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
Spam/Ham Classification – Python
<ul style="list-style-type: none">• Created a classifier that can distinguish spam from non-spam emails by applying feature engineering to text data• Used Python's scikit-learn libraries to process data and fit model; applied cross-validation to minimize overfitting
Personal Website – HTML, CSS, JavaScript
<ul style="list-style-type: none">• Designed and created webpages for my personal portfolio at bqi7.github.io using HTML, CSS and JavaScript

TOOLS AND TECHNOLOGIES

Proficient: Java, LaTeX, Python (+ NumPy, SciPy, scikit-learn, Jupyter, pandas, re, ray distributed computing), SQL
Familiar: C, CSS, Git, HTML, JavaScript (+ jQuery), Linux, MySQL, Scheme, Unix