Jake Kim

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EDUCATION

University of California, Berkeley **Expected Graduation**: June 2022

- B.A. in **Computer Science** **GPA**: 3.5
- B.A. in **Data Science**
- Relevant Coursework: Data Science · Data Structures · Discrete Math · Probability · Designing Devices and Systems · Multivariable Calculus · Linear Algebra · Machine Structures · Algorithms · Database Systems

SKILLS

- **Programming**: Java, Python, C/C++, SQL/NoSQL, JavaScript, HTML/CSS, RISC-V, MIPS, x86, Go
- **Tools & Technologies:** Git, Raspberry Pi, Node.js, React, Bootstrap, GraphQL, LoopBack, Trello, AWS, Solidworks

EXPERIENCE

HungerSwipe| Frontend Developer Intern Aug. 2020 – Present

- Implemented various initial APIs like user authentication, customer contact page, etc. by using GraphQL on Loopback.
- Incorporated CSS design on Loopback to develop user-friendly apps. Improving the number of user feedback by 30%.
- Collaborated with a team of 6 UI/UX designers to document code changes with Trello project management.

UC Berkeley EECS | CS Teaching Academic Intern Sep. 2019 – Present

- Assisted a TA in UC Berkeley's Intro to CS class of 1200+ students, helping more than 100 students throughout the lab, discussion, and office hours.
- Lectured 3 lab sessions for Intro to CS class, leading 30 students with no prior CS experience in concepts of tree recursion, basics of SQL, and asymptotic analysis.
- Taught a group of 4 students as a part of UC Berkeley EECS's Computer Science Mentors program, hosting tutoring sessions for 2 hours a week.

Hauler Ads | Software Developer Intern June 2019 –Aug. 2019

- Redesigned the face recognition software using Raspberry Pi embedded systems that computes the number of pedestrian viewers for ads on a truck wall.
- Implemented a A* algorithm with varying heuristics that targets the highly populated area. Saving the battery output of Raspberry Pi by 40%.
- Worked on the frontend website development using React native on Bootstrap. Improved the customer rating from 3.2 to 4.3 on a 5 scale.

PROJECTS

Numpy Matrix Calculator | Independent Project (C, Python, RISC-V)

- Developed a user-friendly platform for various matrix operations. Utilizing the Python-C interface, this platform computes matrix sum, subtraction, multiplication, exponentiation, using simple +, -, *, ^ operators.
- Converted C to RISC-V assembly language in order to improve the computational power. Saved more than 50% of the memory space by utilizing a stack pointer that saves registers and free it after computing.
- Implemented SIMD instructions by Intel Intrinsics and parallel computing by OpenMP to improve the performance by at least 100 times the original speed for each operation.

Gitlet Version Control System | Group Project (Java)

- Designed my own version control system that allows users to add files, commit, merge, search commits, and check out.
- Reduced the cost by utilizing hash sets with unique hash functions.
- Implemented Depth First Search (DFS) based algorithm to find the most direct parent, enabling to find the shortest path between two commits in complicated merges in linear time.

K-D tree visualizer | Independent Project (Java, Android Studio)

- Created 3D visualizer of any object. Implemented using a K-D tree where the users only input the basic coordinates.
- Integrated a Nearest Neighbor search algorithm to find the most relevant points. Reduced the number of visited nodes by 40%.
- Worked on frontend app development using Android Studio. The app takes base points of the 3D object as an input and outputs the visual representation of the object.