

EDUCATION

- **University of California at Berkeley** Berkeley, CA
Bachelor of Art in Computer Science *Aug. 2018 – Dec. 2020*
 - **Coursework:** Data Structures, Artificial Intelligence, Techniques of Data Science, Discrete Mathematics and Probability, Adaptive Instruction Methods in CS.

EXPERIENCE

- **University of California, Berkeley** Berkeley, CA
Computer Science Department Tutor *Jan 2019 - Apr 2019*
 - **Programming and Data Structure:** Teach programming skills using Python and Data Structure using Java.
 - **Data Analysis:** Tutor data science; Teach how to classify big data, visualize it, and interpret it.
 - **Skillset:** Through Adaptive Instruction Methods in Computer Science, learn and teach how to illustrate big-idea into practice; tutor computer and data science by considering psycho-social factors that affect learning in all levels.
- **Samsung Korea Innovative Center** Daegu, South Korea
Software Engineer *Sep 2017 - Dec 2017*
 - **Virtual Reality:** Built an innovative new Virtual Reality space featuring shooting game.
 - **Unity:** Used Unity features such as collider, rigidbody, and raycast to implement interactive objects.
 - **C-Sharp:** Wrote a script to control components and made own algorithm that each game component is communicating, destroying, and duplicating by itself.
 - **Augmented Reality:** Using Apple's ARKit, rendered objects in the real space showing realistic combat effects with space theme.

PROJECTS

- **RISC-V Neural Net:** Implemented Artificial Neural Net(ANN) to classify handwritten digits into actual numbers by using numerical operations such as vector inner product, matrix multiplication, and thresholding by RISC-V assembly language.
- **Ham and Spam Detection:** Made spam detection using logistic regression model and K-fold cross validation to validate the sigmoid function.
- **Interactive 2D Game:** Designed own data structure to save different tiles, locations of stars and characters. Made own algorithm to generate a randomized game map each time a player played.
- **Collaborative Travel Schedule Application:** Developed iOS Application using Swift, Firebase, MapKit, and Core Location. Users can add or remove location pins for travel plan with the location data synced with Firebase.
- **Maps:** Wrote a library package using Java to emulate a stripped-down version of Google maps. Using Dijkstra's algorithm and A*, the package finds the shortest route to a point from two or more locations and prints out directions and distance.
- **Language Identification:** Built a Recurrent Neural Network (RNN) model that identifies language for one word at a time.
- **Pacman AI:** Built pacman agents on Gridworld, then applied them to a simulated robot controller (Crawler) and Pacman using value iteration and Q-learning.
- **Workshop Sign-up System:** Built a college-wide sign-up web application using Google Script, Google forms, and Spreadsheet. The application was developed in 2014 and still in-use.

PROGRAMMING SKILLS

- **Languages:** Java, Python, C, C++, C-Sharp, SQL, Pandas, Swift, LaTeX.
- **Technologies:** MySQL, Git, Unity 3D, Xcode.