Alexander H. Yu

(971) 219-7713 | yua@berkeley.edu | https://github.com/alexanderyu217

EDUCATION

University of California, Berkeley **Expected Graduation: Spring 2023**
Electrical Engineering Computer Science B.S. **GPA: 3.94**

- Introduction to Artificial Intelligence
- Introduction to Machine Learning
- Introduction to Databases
- Efficient Algorithms and Intractable Programs
- Data Structures and Algorithms
- Discrete Mathematics and Probability Theory
- Designing Information Devices and Systems I, II
- Signals and Systems
- Machine Structures
- Linear Algebra

SKILLS

Programming and Tools: Python, Java, C, JavaScript, SQL, RISC-V, MATLAB, React, Lua, Perl

Hardware: Fusion 360, SOLIDWORKS, Ki Cad

Languages: English, Chinese (Mandarin), Spanish

WORK EXPERIENCE

SoFi **Jun 2021 – Aug 2021**
Software Engineering Intern **San Francisco, CA**

- Implemented loan rerun utility for Risk and Credit BU teams to efficiently run variations of underwriting request data against underwriting policies and to compare the differences in the results generated by decision engine
- Reduced underwriting policy analysis time by over 50x by implementing bulk experimentation features of utility
- Created API endpoints in Java to efficiently retrieve, underwrite, and save to database the results of 1,000+ underwriting requests without running out of memory using custom out-of-core algorithm

US Wushu Center **Jun 2016 – Aug 2019**
Assistant Wushu Instructor **Portland, OR**

- Worked with kids of varying ages and abilities to develop their motor skills and martial arts proficiency
- Taught beginner students and coached advanced students training to compete in national levels of competition
- Independently managed and taught 10-20 student classes in 45-minute periods for four hours a day

PROJECTS

Retro Arcade Game Development **Feb 2020 – May 2020**
Personal Project **Berkeley, CA**

- Wrote Lua scripts to program custom versions of classic arcade games to be run using Love2d game engine
- Integrated custom designed UI into Lua scripts and integrated control hardware with game software
- Designed custom physical model of retro arcade gaming cabinet using Fusion 360 CAD software

Wire Path Optimization Algorithm **Aug 2019 – May 2020**
UC Berkeley Formula Racing **Berkeley, CA**

- Modelled physical 3-dimensional tube chassis layout of racecar with custom object classes in Python
- Implemented interface to convert custom spreadsheet chassis layout inputs to custom Python objects
- Converted 20+ tube car into an intuitive electronic layout used by electrical sub-team to find wire paths
- Implemented search algorithms to generate efficient, optimal paths for each individual wire on the car

FRC Team 1540 **Sep 2016 – Apr 2019**
Co-President and Mechanical Manager **Portland, OR**

- Co-led the mechanical department in the prototyping, design, and fabrication of FRC style robots
- Designed motor and pneumatic actuated mechanisms used by team over 3 competitive seasons
- Designed custom gearboxes to achieve tasks at various target power outputs and motor efficiencies
- Modelled complex geometries in designing custom mechanisms for robot to manipulate game items

ACTIVITIES

Wushu and Taijiquan (Chinese Martial Arts) **2005 - Present**

- *2018, 2017, 2016 World Champion; 2017, 2016 Pan-American Champion*

Theta Tau (Professional Engineering Fraternity) **2020 - Present**

- *Fall 2020 Historian, Spring 2021 Risk Management Chair, Fall 2021 Brotherhood Chair*