

LULU YU

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EDUCATION

University of California, Berkeley

Expected Graduation: May 2023

Bachelor of Arts in Computer Science

Relevant Coursework: Data Structures, Efficient Algorithms, Machine Structures, Introduction to Artificial Intelligence, Computer Security, Designing Information Devices and Systems, Discrete Math and Probability Theory

Technical Languages & Technologies: Python, Kotlin, Java, SQL, HTML/CSS, C, Git, IntelliJ, Android Studio, LaTeX

EXPERIENCE

Amazon — *Kotlin, Java, Android Studio*

May 2021 - August 2021

Software Development Engineer Intern

Seattle, WA

- ▶ Designed and implemented a generic command executor for Android devices used in Fulfillment Centers with functionality to perform any predefined command over the air, such as device wipe or install app
- ▶ Utilized AWS IoT Shadows to facilitate communication between the device and the backend shadow JSON document that stores the command instruction (type and details) and reports the command state lifecycle
- ▶ Scaled command executor infrastructure to support concurrent execution on ~590,000 managed devices

Generate Good — *C#, MySQL, HTML/CSS*

November 2020 - December 2020

Software Development Intern

Remote - San Diego, CA

- ▶ Developed platform's database and core functionalities using MySQL and C#: post dashboard, user creation
- ▶ Implemented front end of generategood.co's user interface using HTML/CSS with the Bootstrap library
- ▶ Built a data analytics feature to generate impact reports for non-profit organizers and coordinators

theCoderSchool — *Java, Python, HTML/CSS*

October 2020 - June 2021

Computer Science Tutor

Remote - Berkeley, CA

- ▶ Taught students the fundamentals of programming, problem solving, and algorithm design using a project based approach; developed personalized curriculums tailored to individual learning goals and skill levels
 - ▶ Guided students through building their own applications using Java, Python, Scratch, and HTML/CSS
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PROJECTS

2D World Generator — *Java*

November 2020

- ▶ Developed an engine that generates pseudorandom 2-dimensional worlds using the StdDraw library in Java
- ▶ Created an interactive one-player avatar movement system controlled by keyboard input to explore the generated worlds and interact in-game; generated worlds were designed as connected hallways and rooms
- ▶ Used create and write to files to implement persistence for save and load functions for user-entered seeds

Bear Maps — *Java*

November 2020

- ▶ Implemented shortest-path search using the A* algorithm along with dynamic zoom and scroll functionality
- ▶ Performed image rasterization to render a full map of UC Berkeley by searching and stitching image files
- ▶ Rendered map images to display routing and respond to scrolling and zooming, similar to Google Maps
- ▶ Utilized a trie data structure for autocomplete search implementation and trees to store map image data

Retro Arcade Machine — *Lua*

April 2020

- ▶ Programmed traditional retro games Pac-Man, Snake, Pong, and a custom street fighter inspired game with multiplayer functionality for a custom designed 3' x 4.5' wooden Retro Arcade Machine
 - ▶ Designed algorithm for ghosts to chase Pac-Man and implemented physics for ball collision in Pong
 - ▶ Designed player selection, help menu, and game over screen on Figma in the traditional pixelated retro style
 - ▶ Games integrated on a Raspberry Pi 4 in programming language Lua using the Love framework
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ORGANIZATIONS

Theta Tau Professional Engineering Fraternity — *Fall 2020 Philanthropy Chair*

January 2020 - Present

Cal Badminton — *2020-2021 Social Chair*

August 2019 - Present

Bridging Berkeley Zoom Mentors — *Math Mentor, Drop in Tutor, Class Aide*

January 2021 - May 2021

Cal Mentors — *Algebra Mentor*

September 2020 - December 2020