

Oliver Yu

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EDUCATION

University of California, Berkeley | Berkeley, CA

May 2024

Bachelor of Science, Electrical Engineering and Computer Science

GPA: 4.00/4.00

Coursework: Probability and Random Processes (A), Computer Architecture (A+), Signals and Systems (A), Data Structures (A+), Structure/Interpretation of Computer Programs (A+), Designing Information Systems and Devices I & II (A, A+), Discrete Mathematics & Probability (A), Efficient Algorithms & Intractable Problems (A), Artificial Intelligence (A), PCB Engineering

In Progress: Operating Systems & Systems Programming, Digital Design & Integrated Circuits

WORK EXPERIENCE

Software Development Engineer Intern

May 2022 – Aug 2022

Amazon Web Services (AWS) | East Palo Alto, CA

- Coded user-friendly unit testing framework for automated testability of 20+ APIs within Amazon Aurora (relational database service)
- Refactored over 20,000 lines of C++ code and updated documentation, enhancing readability and utility of codebase for future use
- Improved continuous development cycle by allowing engineers to design and simulate custom test cases without entire service running

Undergraduate Student Instructor - Content Head

Jun 2021 – Present

University of California, Berkeley | Berkeley, CA

- Create, develop, and review all content and teaching materials for EECS 16B in LaTeX (lower-division EECS course covering topics such as differential equations, feedback control systems, signal processing, linear algebra, machine learning, circuit design)
- Teach 4 discussion sections and hold office hours (individual & group) supporting over 250 students a week
- Collaborate w/ professors to design course curriculum and make pedagogical changes impacting learning of current & future students

PROJECTS

Voice-Controlled Robotic Car (powered by MSP Launchpad)

- Constructed 3.3V/5V voltage regulator circuits, low-pass filter, biasing circuit, & non-inverting amplifier to process microphone input
- Implemented closed-loop feedback and tuned control variables for straight driving and turning
- Coded a speech classification algorithm in C++ by processing voice sample data matrices with SVD and PCA

Git-let

- Programmed a local Git version control system in Java with the ability to save, commit, delete, merge, pull, and push files
- Applied knowledge of graphs, breadth first search, and hashing to create an efficient and scalable directory structure
- Implemented persistence with serialization and java.io.File to create and store files, file contents, and commits across program calls

LEADERSHIP AND ACTIVITIES

Senior Mentor

Jan 2021 – Present

Computer Science Mentors | Berkeley, CA

- Teach weekly sections of 5-6 students for introductory CS course to help develop critical thinking and problem-solving skills
- Work with 20 mentors to provide training for new mentors, lead exam prep sections, create/review content for section worksheets
- Received overall rating of 4.89/5 for teaching effectiveness, concise explanations, and approachability from students across 3 semesters

Student Leader

Jan 2021 – Present

Kesem Berkeley | Berkeley, CA

- Foster supportive, welcoming environment during a week-long summer camp and year-round support services/programs for children ages 5-17 affected by a parent's cancer
- Collectively fundraise over \$200,000 through social media outreach, formal fundraising gala events, and corporate sponsorship, enabling 200+ children to attend camp and receive services free of charge

Assistant Officer

Apr 2022 – Present

Eta Kappa Nu (HKN) - Mu Chapter | Berkeley, CA

- Organize and plan exam review sessions for all 7 lower division EECS/CS courses consistently serving 1000+ students per semester
- Develop comprehensive exam review material, hold weekly one-on-one office hours to review material and provide academic support

SKILLS

Technical: Python, C++, C, Java, LaTeX, Numpy, Algorithms, Data Structures, Scheme, SQL, RISC-V, HTML, CSS, Bootstrap, Git, KiCad, PCB Design, Circuits, Soldering, Logisim

Languages: Advanced in Mandarin, Spanish

Interests: Teaching, Volunteering, Cooking, Spikeball, Volleyball, Reading, Puzzles