Charles Hong

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Education

University of California, Berkeley
B.S., degree anticipated 2021
Major: Electrical Engineering and Computer Science
GPA: 3.97 / 4.00

* In progress † Graduate-level

CS Courses: Data Structures, Algorithms, Discrete Math and Probability Theory, Computer Architecture, Operating Systems, Compilers, Artificial Intelligence, Machine Learning, Intro to Teaching CS, *Computer Security

EE Courses: Designing Information Devices and Systems I/II, Digital Design and Integrated Circuits (FPGA Lab), *Optimization, †Hardware for ML

Experience

NVIDIA | Architecture Intern (Summer 2020)
- Returning intern in the Tegra System Architecture group
- Built a tool using ML methods to predict CPU cost of networking workloads to within 15% accuracy

NVIDIA | Architecture Intern (Summer 2019) | nvidia.com
- Modeled SoC use cases as part of the Tegra System Architecture group
- Built and delivered a tool to dynamically estimate power data based on task scheduling and per-IP workload parameters
- Analyzed and visualized power data in Python/SciPy/NumPy

Oski Technology | Formal Verification Intern (Summer 2018) | oskitechnology.com
- Wrote test plan and coded checkers and constraints to formally verify an RTL design
- Learned and utilized the HDLs Chisel and SystemVerilog, as well as JasperGold for formal verification
- Interfaced regularly with customer to facilitate product understanding and clarify scope of project

U.C. Berkeley Computer Science Department | Undergraduate Student Instructor (Fall 2018–Spring 2020)
- Fa18/Sp19: Taught weekly 90-minute discussion sections and labs for 30+ students and host office hours for CS 61A (programming fundamentals course)
- Fa19/Sp20: Similar responsibilities for CS 61C (computer architecture)
- Fa20: FPGA lab TA for EECS 151 (digital design)
- Create and review course content including exam questions, discussion worksheets and slides, homework/lab assignments, and supplementary materials

Skills

- **Programming:** Python, Java, C, (System)Verilog; version control (Git, SVN, Perforce)
  - Familiar with Chisel, RISC-V, HTML/CSS, JavaScript, SQL, Scheme, NumPy
- **Language:** English (native), Korean (working proficiency), Spanish (elementary proficiency)

Activities and Awards

Pioneers in Engineering | Director of Engineering (2019-20), Project Manager (2018-19), Software Developer (2017–18) | pioneers.berkeley.edu
- Led software development in a club of 50+, including 5 software teams, serving 200+ high schoolers each year
- Previously, managed project team developing software that manages robotics competition UI elements and field state
- As a developer, used Python to implement interprocess and interdevice communication into the field control state machine, and designed robotics competition scoreboard using HTML, CSS, and JavaScript
- Worked with Business Operations group to raise funds towards an over $50,000 budget by contacting and gaining sponsorships from local companies

Computer Science Mentors | CS 61A Junior Mentor (Spring 2018) | csmberkeley.github.io
- Held weekly group tutoring sessions and met with students individually to provide support

U.C. Berkeley College of Engineering | Dean's List (Fall 2017–Spring 2019)
- Further status unclear due to changes in campus policy

U.C. Berkeley | Edward Frank Kraft Award for Freshmen (Fall 2017)

U.C. Berkeley IEEE-HKN (EECS Honor Society) | Member (Fall 2018–present)