

# Olivia Weng

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## Education

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### University of California, San Diego

PhD (*In progress*), Computer Science

Advisor: Ryan Kastner

2020 - 2026 (expected)

### The University of Chicago

BS, Computer Science *spec.* Computer Systems

2016 - 2020

## Research Experience

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### University of California, San Diego

Research Assistant

Advisor: Ryan Kastner

October 2020 - Present

### The University of Chicago

Research Assistant

Advisor: Andrew A. Chien

April 2019 - Jan 2020

### The University of Chicago

Research Assistant

Advisor: Yanjing Li

March 2018 - Jan 2020

## Employment

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### The University of Chicago

Computer Lab Tutor

Jan 2017 - Jun 2020

### Braintree

Software Engineer Intern

Jun 2019 - Aug 2019

### The University of Chicago

Research Assistant

Advisor: Yanjing Li

Jun 2018 - Sep 2018

### Gridless Power Corporation

Software Intern

Jun 2017 - Aug 2017

## Awards

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### National Science Foundation Graduate Research Fellowship

2022 - 2025

### Jacobs School of Engineering Fellowship

University of California, San Diego

2020 - 2022

### Kunzel Powell Fellowship

University of California, San Diego

2020 - 2021

### Dean's Fund for Undergraduate Research

The University of Chicago

2020

**Dean's List**  
The University of Chicago

2017, 2018, 2019

**Grace Hopper Conference Scholarship**  
The University of Chicago

2018

## Publications

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1. **Ditch the Training Wheels:** In submission  
**Exploring Skip Connection Removal for Resource-Efficient Inference**  
Olivia Weng, Gabriel Marcano, Alireza Khodamoradi, Nojan Sheybani, Farinaz Koushanfar, Kristof Denolf, Ryan Kastner
2. **Turn on, Tune in, Listen up:** In submission  
**Maximizing Channel Capacity in Time-to-Digital Converters**  
Colin Drewes, Olivia Weng, Steven Harris, Winnie Wang, William Hunter, Christopher McCarty, Ryan Kastner, Dustin Richmond
3. **Open-source FPGA-ML codesign for the MLPerf Tiny Benchmark** MLBench 2022  
Michaela Blott, Hendrik Borras, Giuseppe Di Guglielmo, Javier Duarte, Nicolò Ghielmetti, Ben Hawks, Scott Hauck, Shih-Chieh Hsu, Ryan Kastner, Jason Liang, Andres Meza, Jules Muhizi, Tai Nguyen, Rushil Roy, Nhan Tran, Yaman Umuroglu, Olivia Weng and Aidan Yokuda  
In *Workshop on Benchmarking Machine Learning Workloads on Emerging Hardware (MLBench)* at *Fifth Conference on Machine Learning and Systems (MLSys)*.  
To appear.
4. **A Tunable Dual-Edged Time-to-Digital Converter** FCCM 2021  
Colin Drewes, Steven Harris, Winnie Wang, Richard Appen, Olivia Weng, Ryan Kastner, William Hunter, Christopher McCarty, Dustin Richmond  
In *IEEE 29th Annual International Symposium on Field-Programmable Custom Computing Machines (FCCM)*  
Virtual, May 2021
5. **Design Space Exploration for Machine Learning Architectures** ReCoDe 2021  
Michael Barrow, Olivia Weng, Ryan Kastner  
In *Workshop on Reimagining Codesign*  
hosted by *US DOE, Office of Advanced Scientific Computing Research*.  
Virtual, March 2021.
6. **Hardware-efficient Residual Networks for FPGAs** SLOHA 2021  
Olivia Weng, Alireza Khodamoradi, and Ryan Kastner.  
In *Workshop on System-level Design Methods for Deep Learning on Heterogeneous Architectures (SLOHA)*  
at *Conference on Design, Automation and Test in Europe (DATE)*.  
Grenoble, France, February 2021.
7. **Evaluating Achievable Latency and Cost: SSD Latency Predictors** AccML 2020  
Olivia Weng and Andrew A. Chien.  
In *Workshop on Accelerated Machine Learning (AccML)*  
at *High Performance Embedded Architectures and Compilers (HiPEAC)*.  
Bologna, Italy, January 2020.

## Presentations

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### Hardware-efficient Residual Networks for FPGAs

SLOHA 2021, Virtual

February 5, 2021

### Evaluating Achievable Latency and Cost: SSD Latency Predictors

AccML 2020, Bologna, Italy

January 20, 2020

## Teaching

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### CSE 142L: Computer Architecture: A Software Perspective – *Head TA*

Summer 2021, Fall 2021

- Developed control flow graph visualizer for students to visually see computer architecture concepts in action

### CMSC 15400: Introduction to Computer Systems – *Grader*

Spring 2020

### CMSC 15200: Introduction to Computer Science II – *Grader*

Summer 2018, Winter 2019

### CMSC 22200: Computer Architecture – *Grader*

Spring 2018

### CMSC 16100: Honors Introduction to Computer Science I – *Grader*

Autumn 2017

## Service

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### UCSD GradWIC Mentorship Program, Mentor

Oct 2021 - Present

- Mentored a Masters student in starting research in machine learning hardware acceleration

### UCSD CSE DEI Book Club, Organizer + Member

Oct 2020 - Present

- Select books and lead discussion on pressing and timely diversity issues, focusing on the U.S.
- Books read: *The Color of Law*, *Minor Feelings*, *How to be an Anti-Racist*, *Whistleblower: My Unlikely Journey to Silicon Valley and Speaking Out Against Injustice*, *Between the World and Me*, *The Loneliest Americans*, *The End of Bias: A Beginning*

### MyCSPHD.org, Content Creator + Panelist

Dec 2020 - Apr 2021

- Created an informational video on the CS Ph.D. experience based on an interview with a Ph.D. student at the University of Washington, currently available on the My CS Ph.D Youtube channel
- Participated in two My CS Ph.D. information session panels, answering questions about why pursue a Ph.D in CS and what Ph.D student life is like

### Jacobs Undergraduate Mentoring Program, Mentor

Oct 2020 - Jun 2021

- Mentored three undergraduate students, fostering connections between software engineers in industry and maintaining morale amidst a global pandemic

### UCSD GradWIC Graduate School Application Workshop, Volunteer

Oct 2020 - Mar 2021

- Reviewed and gave feedback on several undergraduate students' graduate school application materials over multiple workshop sessions

### ACM-W@UChicago Mentorship Program, Undergraduate Mentor

May 2018 - Jun 2020

- Guided Neha through how to start research and secure a research advisor, pointing her to various professors in the department with whom she could potentially work—she worked with Professor Shan Lu
- Supported and checked in with Melanie as she went through the internship recruiting process and the CS major at UChicago, reviewing her resume and helping her select classes

### CS Student Activities Council, Student Representative

Sep 2017 - Jun 2020

- Secured funding to support four computer science student organizations on campus to host events that foster collaboration and grow the undergraduate tech community at UChicago

### Asynchronous Anonymous, Director

Jan 2017 - Jun 2020

- Coordinated weekly tech talks given by a diverse set of undergraduates, elevating minority speakers, to build an inclusive tech community at UChicago, engaging students with new technologies

**Society of Women Engineers' Girls' Day in STEM**, Volunteer

May 2019

- Created a workshop that taught basic cryptography topics, in which 50 middle and high school girls participated
- Facilitated a discussion on diversity and what it means to be a woman in STEM among a group of 7 local Chicago middle school girls

**compileHer Tech Capstone 2019**, Volunteer

Apr 2019

- Led a group of 12 local Chicago middle school girls through interactive workshops that introduced select computer science topics, guiding them through completing each activity

**ACM-W@UChicago**, Board Member

Jan 2017 - Jun 2018

- Organized study breaks and student panels in committee of five women computer science majors weekly to bring women and minority computer science community together and discuss diversity issues in the tech industry

## Extra-curricular Activities

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| <b>University Theater</b> , Actor                              | Jan 2020 - Jun 2020 |
| <b>University Double Woodwind Quintet</b> , French horn player | Apr 2018 - Jun 2018 |
| <b>University Symphony Orchestra</b> , French horn player      | Oct 2017 - Jun 2018 |
| <b>University Chamber Orchestra</b> , French horn player       | Oct 2016 - Jun 2017 |
| <b>Taiwanese-American Student Association</b>                  | Oct 2016 - Jun 2020 |
| Events chair, Family head, Advisory board                      |                     |