

GINA YUAN

@ gyuan@stanford.edu

🌐 ginayuan.com

🐙 github.com/ygina

EDUCATION

Stanford University

Ph.D. in Computer Science, Sep. 2019 – Jun. 2024 (expected)

📍 Stanford, CA

- *Co-Advisors*: David Mazières and Matei Zaharia
- *Research topics*: I am interested in building distributed systems and networking solutions where privacy and security are first-class properties. My current research involves building a secure smart home framework for IoT based on the serverless programming model, and hacking on the Raspberry Pi with tools like eBPF.

Massachusetts Institute of Technology

M.Eng. in Computer Science and Engineering, Jan. 2019 – Sep. 2019

📍 Cambridge, MA

- GPA: 5.0/5.0
- *Advisor*: Robert Morris
- *Thesis Title*: Scalable Fault Tolerance for High-Performance Streaming Dataflow

Massachusetts Institute of Technology

B.S. in Computer Science and Engineering, Sep. 2015 – May 2019

📍 Cambridge, MA

- GPA: Technical 5.0/5.0, Cumulative 4.9/5.0
- *Systems Coursework*: distributed systems, operating systems, database systems, computer systems security, performance engineering, compilers, decentralized applications, multicore programming
- *Theory Coursework*: applied cryptography, algorithms II, theory of computation, abstract algebra

PUBLICATIONS

Conference Papers

🌟 **Offload Annotations: Bringing Heterogeneous Computing to Existing Libraries and Workloads**
Gina Yuan, Shoumik Palkar, Deepak Narayanan, Matei Zaharia. USENIX ATC 2020.

🌟 **Aurum: A Data Discovery System**
Raul Castro Fernandez, Ziawasch Abedjan, Famiem Koko, Gina Yuan, Samuel Madden, Michael Stonebraker. ICDE 2018.

Other

🌟 **Designing a Smart Home around Pure-Local Privacy**
Gina Yuan, David Mazières, Matei Zaharia. *In-progress preprint.*

🌟 **Scalable Fault Tolerance for High-Performance Streaming Dataflow**
Gina Yuan. Poster and abstract at ACM Student Research Competition at SOSP SRC 2019.

EXPERIENCE

Facebook, Inc.

Software Engineering Intern, Jun. 2018 – Aug. 2018

📍 Menlo Park, CA

- Created an automated, distributed platform for continuously fuzzing libFuzzer test harnesses in C++. In the matter of a day, re-discovered all the security vulnerabilities that had been found through manual fuzzing over several months and more.

Battlecode AI Programming Competition

President, Apr. 2016 – Feb. 2018

📍 Cambridge, MA

- Directed competition with 1000+ worldwide competitors, \$100,000+ in revenue from corporate sponsors, and notable alumni like the founders of Dropbox, Amplitude, ZenSourcer, Benchling.
- Featured in Hacker News, Vice Motherboard, The Tech, and an IAMA on the front page of Reddit.
- Expanded Battlecode in the first year players could write robots in any programming language (previously only Java).

- Founded Battlehack, a 24-hour condensed version of Battlecode.
- Technical contributions: Rust game engine with time-constrained computation, TypeScript visualization tool with FlatBuffer protocol, Django website with Angular.js frontend, and a scrimmage server using Docker containers hosted on AWS.

MongoDB Inc.

Software Engineering Intern, May 2017 – Aug. 2017

📍 New York, NY

- Extended MongoDB's in-house continuous integration system in Go to build on modern cloud providers such as Google Compute, OpenStack, and VMware vSphere, increasing the availability of uncommon platforms like Arch Linux on ARM.
- Applied automation tools like Chef and Packer to build and provision machine images.






IBM Watson

Software Engineering Intern, Jun. 2016 – Aug. 2016

📍 Raleigh, NC

- Created a voice-controlled conference call application by integrating a full-stack JavaScript web framework with Twilio and Watson APIs (speech-to-text, natural language classifier).
- Demoed application in a live call with hundreds of audience participants using the voice command "Watson, mute all".
- Placed 2nd out of 100+ intern teams as chosen by IBM executives.

TEACHING

-  **CS245 Principles of Data-Intensive Systems, Winter 2021** 📍 Stanford, CA
Graduate teaching assistant.
-  **Battlecode Splash Class, Spring 2018** 📍 Cambridge, MA
Six-week class teaching middle and high school students how to code through Battlecode. Built an in-house web IDE sandbox for pedagogical purposes.
-  **6.147 Battlecode AI Programming Competition, IAP 2017, IAP 2018** 📍 Cambridge, MA
Four-week class teaching MIT students how to build a basic Battlecode program in Java. Streamed lectures on Twitch ( mitbattlecode), which were so popular that Battlecode became an official Twitch game category.
-  **6.046 Design and Analysis of Algorithms, Spring 2017, Fall 2017** 📍 Cambridge, MA
Graded for two semesters and tutored for one semester through MIT Eta Kappa Nu, the national honor society for EECs.

HONORS

-  **Cambridge2Cambridge Cybersecurity Challenge Top 5 Individual Qualifier, July 2018**
Capture The Flag (CTF) competition. Qualified for a free trip to the University of Cambridge.
-  **Battlecode Finalist, January 2016**
International AI programming competition. Top 8 out of 100 teams.
-  **\$4,000 Mu Alpha Theta Scholarship, June 2015**
National math honor society.
-  **U.S.A. Mathematical Olympiad Qualifier, May 2013, May 2015**
Prestigious high school mathematics competition. Top 0.5% of 100,000.

SERVICE

- OSDI Artifact Evaluation Committee 2020
- Stanford CS PhD Student Social Chair (academic year 2020-present)