

# Billy (Yichi) Zhang

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## EDUCATION

### UNIVERSITY OF CALIFORNIA, BERKELEY

#### GRADUATE

#### M.S. IN COMPUTER SCIENCE

Expected Aug 2021 - May 2022

Berkeley, CA

### UNIVERSITY OF CALIFORNIA, BERKELEY

#### UNDERGRADUATE

#### B.A. IN COMPUTER SCIENCE

Aug 2017 - May 2021 | Berkeley, CA

GPA: 3.65

Major GPA: 3.80

## PERSONAL INFO

Personal Page [zyc.moe](http://zyc.moe)  
GitHub [MCer4294967296](https://github.com/MCer4294967296)  
LinkedIn [zyc.moe/linkedin](https://www.linkedin.com/in/zyc.moe/)

## COURSEWORK

### UNDERGRADUATE

CS 162: Operating System

CS 262a: Graduate-level OS

CS 168: The Internet

CS 268: Graduate-level Networks

CS 161: Computer Security

CS 188: Artificial Intelligence

CS 186: Databases

CS 184: Computer Graphics

## SKILLS

- Python
- C/C++
- Linux
- Java
- Shell
- Javascript
- GoLang
- RISC-V

## EXPERIENCE

### CERTIK LLC | SOFTWARE ENGINEERING INTERN

May 2021 - Now | Berkeley, CA

- Working in the tooling team, provided functionality for the internal main platform to facilitate other teams' auditing process.
- Wrote a tool to extract dependencies of a smart contract, integrated several external programs into the platform.
- Working on providing language support for Solidity on the platform.

### BERKELEY NETSYS LAB | SOFTWARE RESEARCHER

Dec 2020 - Now | Berkeley, CA | Professor Scott Shenker

- Took part in the RingWorld project, a Replicated State Machine protocol based on a ring topology.
- A core developer of the software simulator and testbench.

### KELDA INC. | SOFTWARE ENGINEERING INTERN

Aug 2019 - Dec 2019 | Berkeley, CA

- Worked on a Golang project that aimed to automate the process of code deployment onto a Kubernetes cluster for developers.
- Designed a system that combines log streams from multiple micro-services. Experimented different polling/interrupt strategies.

### OPEN COMPUTING FACILITY (OCF) | VOLUNTEER ROOT STAFF

Oct 2018 - Present | Berkeley, CA

- OCF devotes to providing computing resources to Berkeley campus community.
- Migrated our free software mirrors server to a physical one with 10 GbE and doubled reliable storage. Experimented on multiple RAID configurations and maximized the performance.

## PROJECTS

### NARROW Jan 2021 - May 2021

- CS 268 class project of 2 students.
- Designed a protocol on the basis of Extensible Internet that defends DDoS attacks in a distributed fashion.
- Investigated how much resource does the Narrow protocol cost so as to peek how performant do edge servers need to be.
- Simulated a toy environment using Open vSwitch and a control program that modifies the OpenFlow rules in effect.
- Final report is at [zyc.moe/cs268\\_report.pdf](http://zyc.moe/cs268_report.pdf)

### TLDR Sept 2020 - Dec 2020 | Python

- Stands for *Time travel with Large-scale, Distributed event-souRced systems*.
- CS 262 class project of 3 students.
- Investigated the Ray framework for building the desired system.
- Tested multiple potential paradigms - multiple vs single actor system.
- Implemented snapshot and inherently time-travelling functionalities.
- Final report is at [zyc.moe/cs262a\\_report.pdf](http://zyc.moe/cs262a_report.pdf)

### GOMOKU.IO Jul 2020 - Aug 2020 | C++, Python, JS, WebSocket

- A website that one can visit and play gomoku with another without registering.
- Used WebSocket to maintain the connection and to send message dual-ways.
- Prototyped using Python asyncio, rewriting in C++ using Boostlib as a practice.