

Shi-Hao (Steve) Liu

shihao.liu@asu.edu | (602) 554-6539 | github.com/lancher | linkedin.com/in/shihao-liu

EDUCATION

M.S. in Computer Science

Arizona State University, Tempe, AZ

08/2017 - 5/2019 (Expected)

B.S. in Computer Science

National Tsing Hua University, Hsinchu, Taiwan

09/2009 - 06/2013

TECHINICAL SKILLS

- **Languages:** Python, Java, JavaScript/ES6, Golang, C/C++, Html, CSS, SQL, Makefile, Shell Scripts
- **Frameworks:** Tornado, Django, Flask, Scrappy, IPython, Supervisor, Node.js, Grunt, ReactJS, Redux, jQuery, jqChart, Tomcat, Spring, Hadoop, Hive
- **Databases/Tools:** MYSQL, MongoDB, Redis, Memcached, Docker, LXC, Webpack, Gradle, Jenkins, GCP, AWS, git

WORK EXPERIENCE

Software Engineer, QNAP Systems Incorporation, New Taipei City, Taiwan

03/2015 - 03/2017

Browser Station

- Achieved 25k+ downloads by designing a unique web service to avoid complex VPN settings when remotely accessing
- Implemented the backend service with Django REST, Redis Pub/Sub and MongoDB based on Docker orchestra
- Designed a new Docker virtual desktop image with customized LXDE virtual desktop, noVNC, Chrome and Firefox

Linux Station

- Migrated Ubuntu 14.04/16.04 root filesystems to seamlessly integrate with lightweight LXC containers
- Synchronized audio via PulseAudio between monitors switching; Improved Ubuntu APT updating speeds; Python random library patches in kernel 3.12; Fixed Gnome screensaver inactive and Software Center issue;

Container Station

- Implemented integration tests from scratch with Junit Selenium based on Gradle on daily Jenkins routines

Military Service, Keelung City Government, Keelung City, Taiwan

10/2013 - 10/2014

OPEN SOURCE EXPERIENCE

Tornado Asynchronous Web Framework (14k+ stars), Contributor

01/2017 - Present

Memory Leaks in TCP client

- Refactored TCP client with built-in timeout by closing underlying sockets and designed coverage Mock tests

Python Syntax Checking in AutoReload

- Refactored AutoRealod by passing global variables between namespace of main and modules to detect syntax errors

PERSONAL PROJECTS

Tracing Major Brokers in Taiwan Stock (Quarterly Profit 5%)

02/2017 - Present

- Built up a dashboard website with Tornado and charts visualization with D3.js, Babel and Webpack
- Developed Selenium crawlers on GCP to fetch 1.5k+ Taiwan companies' daily detailed transaction CSV reports
- Broke CAPTCAHs with 85% accuracy in Python, OpenCV and MSE comparisons on Taiwan Stock Exchange website
- Implemented SQL data piping from 3 GCP virtual machine instances under Hadoop and Hive orchestra

Visualization of Raft Consensus Algorithm

09/2017 - Present

- 10+ containers cluster to simulate leader elections by using Golang channels in fault-tolerant distributed systems
- Implemented WebSocket server in Tomcat from Raft service and visualization in React canvas based on Webpack

Anime Messaging ChatBot

07/2016 - 02/2016

- Designed the text bot by using Facebook messaging and Java Messenger4j to recommend daily latest updated anime
- Implemented a web crawler in Crawler4j to grab 2k+ daily anime data and a script parser to MySQL on AWS EC2

HTTP Web Server in C++

04/2016 - 08/2016

- Designed HTTP/1.1 web server in Boost Asio, supporting multiple clients and pipelined requests with I/O multiplexing

System and Network Programming

07/2015 - 02/2016

- Built 40+ comprehensive samples for clarifying both Linux low-level system calls and network function calls
- Developed file I/O, signal, pipe, mmap, memory alignment/mapping, process credentials, TCP SYN, ICMPv4 echo, ICMPv6 echo, ICMPv6 neighbor solicitation and ICMPv6 router solicitation