Shi-Hao Liu **Steve**

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Highlights

16K+ Stars Open Source Contributor; **2 Years** Experience in Python and Golang around Linux/Docker System;

Education

M.S. in Computer Science, Arizona State University, Tempe, AZ (GPA: 3.6/4.0)   *Aug. 2017 - May 2019*

B.S. in Computer Science, National Tsing Hua University, Hsinchu, Taiwan   *Sep. 2009 - Jun. 2013*

Technical Skills

Languages: Python, Golang, C++, C, Makefile, Bash

Frameworks: Tornado, Django, Scrapy, Sphinx, IPython, GoDep, Gorilla Web Toolkit, Logrus

Databases/Tools: MySQL, Redis, Memcached, Docker, LXC, Poky, BitBake, GCP, AWS, IPtables, Perf, Sar, Dpkg

Work Experience

Software Intern, Formlabs Incorporation, Boston, Massachusetts   *May 2018 - Aug. 2018*

○ Built robust Bessemaker, a new Docker runnable Linux OS for running various testing containers at factories from scratch based on Poky, Yocto and BitBake ecosystems.

○ Piped 1000+ factory logs into histograms/line plots with Jupyter Notebook, Pandas and Matplotlib.

Software Engineer, QNAP Systems Incorporation, New Taipei City, Taiwan   *Mar. 2015 - Mar. 2017*

○ Implemented backend services with Django REST/Swagger and Redis Pub/Sub based on Docker orchestra.

○ Developed a Message Broker with processes supervisor functionality, a Daemon/CLI service that interacts between LXC containers and Hosts by Goroutines/Channels.

○ Built a virtualization Linux Station, a project that migrated Ubuntu 14.04/16.04 root file systems to seamlessly integrate with Ubuntu Systemd, Cgroups, and lightweight LXC containers.

○ Patched Python Random Module in kernel 3.12 with C, Autoconf, and Dpkg.

Military Service, Keelung City Government, Keelung City, Taiwan   *Oct. 2013 - Oct. 2014*

Open Source Experience

Tornado, Python Asynchronous Web Framework (**16k+ Stars on GitHub**), Contributor   git.io/fNlnG *2018*

○ Refactored TCP Client with built-in timeout by closing late TCP connections as opposed to default TCP timeout.

○ Designed Mock Tests to verify interleaving of "Happy Eyeballs Algorithm" timeout and built-in timeout.

○ Refactored AutoReload by passing global variables between main and module namespace to detect syntax errors.

Projects

Raft Consensus Algorithm, Golang Distributed Key-Value Library   git.io/fN4Og *2018*

○ Implemented single Leader Election, Leader Failure and Leader Re-Election by RequestVote RPCs.

○ Developed consistent log mechanism by passing AppendEntry RPCs from the leader to passive followers.

○ Achieved the implementation of saving and restoring persistent states during reboot.

○ Designed Client/Clerk Interactions to the leader with random servers' selection and retries.

MapReduce Library, Golang Distributed Batch Processing Library   git.io/fNlnQ *2017*

○ Implemented single Mapper intermediate jobs and Reducer merging/sorting tasks.

○ Designed a Word Count Testing to verify a single Map/Reduce job.

○ Developed distributed/fault-tolerant MapReduce tasks with worker threads that run in parallel on multiple cores.

JOS, MIT Operating System in C   git.io/fNlnB *2017*

○ Developed physical memory allocator (Pages) and MMU's page tables for virtual memory.

○ Designed user-mode environment and handled Syscalls/Exceptions between user-mode and kernel-mode.