BRIAN (YUAN-AN) LIU

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EDUCATION

ILLINOIS INSTITUTE OF TECHNOLOGY, Chicago, IL
Master of Science, Computer Science — Aug 2016 – May 2018
Major Courses: Advanced Computer Security, Cloud Computing, Research Project

CHUNG YUAN CHRISTIAN UNIVERSITY, Taoyuan, Taiwan
Bachelor of Science, Information and Computer Engineering — Sept 2011 - Jun 2015

COMPUTER SKILLS

- **Languages:** C++, C, Python, Go, Shell Script, Java/TypeScript
- **Networking/ Protocols:** VLAN, VxLAN, TCP/IP, REST, SOAP, P2P, ZMQ
- **Technologies:** Distributed/Embedded Systems, Security, SDN, NFV, Machine learning, Git, Perforce, Docker, OF, OVS, GNU toolchain, Mininet, OpenStack, ESXi, JIRA, Bugzilla
- **Web, Servers and Databases:** Apache, Flask, Django, MySQL, MongoDB

EXPERIENCE

F5 NETWORKS, INC, San Jose, CA — July 2018 - Present
Software Engineer

- Primarily working on F5 BIG-IP's Policy Enforcement Manager and Service Function Chaining.
- SDN Controller (ODL) feasibility Study and implementation.
- Implementation and maintenance for F5's products with a focus on both control and data plane.
- Development solutions for application delivery networking in CI/CD pipelines.

MOREMOTE, INC., Taipei, Taiwan — Jul 2014 - Jun 2015
Embedded Systems Software Engineer

- Developed iOS applications for two IP-Camera projects (BBCam ™ and Ability HomeCam™) using Objective-C with MRC, ARC, XIB, Storyboard (Facebook/Weibo/QQ API)
- Created a client/server relationship between systems based on Apache Tomcat using SOAP, P2P with C++
- Wrote code for transferring data between devices using REST, HTTP, JSON, cURL, XML, iBeacon, BLE
- Built up Linux server (Ubuntu 14.04.1) and applications (Redmine, Bugzilla, and Testopia)
- Worked on strategy assessment and feasibility study
- Responsible for Development, Testing, Software Release Maintenance, and peer code reviews

ACADEMIC PROJECTS

Distributed Embedded Linux System Smart Grid Testbed (IIT-Security Lab) — Nov 2017 - Present

- Work on Linux Kernel Module and multiprocessing for virtual time in distributed sys using C, Python, GPIO.
- Provide synchronization solution for real-time processes to synchronize with a discrete time step solution electric power simulator using SDN (OpenvSwitch/Ryu/OpenFlow).

TeraSort on Cloud — Aug 2017 - Dec 2017

- Implemented parallel external sort using Python.
- Implemented with Hadoop MapReduce and Spark framework on multi-node of AWS EC2 i3.
- Shell scripted with auto-testing, configuration and tested with Sort Benchmark.

System Benchmarking on Cloud — Aug 2017 - Dec 2017

- Evaluated CPU, Memory, GPU, Disk and Network Performance on Private Cloud with OpenStack.
- Implemented with Python, C++, CUDA and Shell Script.
- Cross validated with LINPACK Benchmarks, STREAM, IOZone and IPerf.

Implementation and improvisation of Netplumber — Jan 2017 - May 2017

- Implementation of the NetPlumber - Header Space Analysis
- Improvisation by using Girvan–Newman algorithm
- Building an additional way to determine rules by providing statistical data