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, Online Social Network Analysis, Cloud Computing

CHUNG YUAN CHRISTIAN UNIVERSITY, Taoyuan, Taiwan

Bachelor of Science, Information and Computer Engineering   Sept 2011 - Jun 2015

COMPUTER SKILLS

- **Languages:** C++, C, Python, Go, Objective-C, Swift, JAVA, R, Shell Script
- **Networking/ Protocols:** HTTP, TCP, UDP, REST, SOAP, P2P, BLE, iBeacon, ZMQ, ARP, Ethernet, DNS
- **Operating Systems:** Unix/Linux (Ubuntu, Debian, Fedora, Kali, CentOS, RedHat), macOS, Windows
- **Technologies:** Distributed/Embedded Systems, Security, SDN, Machine learning, Git, AWS, Google App Engine, Hadoop, Spark, Docker, Openflow, OpenvSwitch, GNU toolchain, Mininet, Wireshark, OpenCV
- **Web, Servers and Databases:** Apache, MySQL, MongoDB

EXPERIENCE

KYPHER, LLC., St. Louis, MO   May 2017 - Aug 2017
Application Developer Intern

- Full Stack Developer for Kypher ™ HIPAA Compliant Messaging iOS application using Swift 3, CocoaPods and IIS server using C# and MongoDB
- Created a client/server relationship b/w systems based on IIS using REST, HTTP, JSON with E2E encryption.
- Responsible for Strategy Assessment and Feasibility Study
- Mentor team members to build, strategize, resolve issues in the project

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

PROJECTS

Distributed Virtual Time System for Embedded Linux (IIT-Security Lab / GCASR) 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