BRIAN (YUAN-AN) LIU

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EDUCATION

ILLINOIS INSTITUTE OF TECHNOLOGY, Chicago, IL
Master of Science, Computer Science Aug 2016 - May 2018
Association: IIT-Security Lab

CHUNG YUAN CHRISTIAN UNIVERSITY, Taoyuan, Taiwan
Bachelor of Science, Information and Computer Engineering (Computer Science) Sept 2011 - Jun 2015
Association: CYCU-Software Engineering Lab

SKILLS

- **Languages:** C++, C, Python, Shell Script, TypeScript, Go
- **Networking/ Protocols:** NSH, SFC, VLAN, VxLAN, TCP/IP, REST, SOAP, P2P, ZMQ, SRv6
- **Technologies:** Distributed/Embedded Systems, Security, SDN, NFV, Machine learning, Git, Perforce, Docker, OF, OVS, GNU toolchain, Mininet, OpenStack, ESXi, Flask, Yarn, Database, Boost, Protobuf

EXPERIENCE

AMAZON WEB SERVICES, INC. (AWS), East Palo Alto, CA Nov 2019 - Present
Software Development Engineer
- Primarily working on AWS Aurora Database

F5 NETWORKS, INC, San Jose, CA July 2018 – Nov 2019
Software Engineer
- Primarily working on F5 BIG-IP's Policy Enforcement Manager and Service Function Chaining
- 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.
- SDN Controller (ODL) / RFC(s) feasibility Study and implementation.

KYPHER, LLC, St. Louis, MO May 2017 - Aug 2017
Application Developer Intern
- Full Stack Developer for Kypher ™ HIPAA Compliant Messaging iOS application and IIS server.

R.O.C. NAVY, FFG-934, Taiwan Jul 2015 - Jun 2016
Sonar Technician Seaman (Mandatory Military Service)
- Operated and maintained sonar and underwater fire control systems

MOREMOTE, INC., Taipei, Taiwan Jul 2014 - Jun 2015
Embedded Systems Software Engineer
- Developed applications for two IP-Camera projects (BBCam ™ and Ability HomeCam™).
- Created a client/server relationship between systems based on Apache Tomcat using SOAP, P2P with C++
- Responsible for strategy assessment, feasibility study, software release maintenance, and code reviews.

PUBLICATION

1. **A Distributed Virtual Time on Embedded System for Evaluating Cyber-Physical Systems** (ACM SIGSIM-PADS 2019) *(Best Paper Award)*
2. **A Distributed Embedded Linux System Smart Grid Testbed** (GCASR 2018)
- Provide synchronization solution for real-time processes to synchronize with a discrete time step solution electric power simulator using SDN (OpenvSwitch/Ryu/OpenFlow)

ACADEMIC PROJECTS

System Benchmarking and TeraSort 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.
- Implemented parallel external sort using Python, Hadoop and Spark on multi-node of AWS EC2 i3

Implementation and improvisation of Netplumber Jan 2017 - May 2017
- Implementation of the NetPlumber - Header Space Analysis
- Improvisation by using Girvan–Newman algorithm for Machine learning.
- Building an additional way to determine rules by providing statistical data