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)   Sep 2011 - Jun 2015
Association: CYCU-Software Engineering Lab

SKILLS

- **Languages:** C++, C, Python, Shell Script, TypeScript, Java
- **Networking/ Protocols:** NSH, SFC, VLAN, VxLAN, TCP/IP, REST, SOAP, P2P, ZMQ, SRv6, RPC
- **Technologies:** Distributed/Embedded Systems, 5G, AWS, CDK, SDN, NFV, Database, Git, Perforce, Kubernetes, Docker, OF, OVS, GNU toolchain, Mininet, Flask, Boost, Protobuf, vim

EXPERIENCE

AMAZON WEB SERVICES, INC. (AWS), Sunnyvale, CA   Nov 2019 - Present
Software Development Engineer 2

- Developing services including AWS Private 5G, Telco Network Builder, VPC and Site-2-Site VPN.
- Researching, design and implementation of new AWS 5G services.
- Leading and mentoring team members and project planning.
- Building distributed and streaming service for AWS Aurora database.
- Design and implementation of Aurora database Binlog manipulation library.

F5 NETWORKS, INC, San Jose, CA   Jul 2018 – Nov 2019
Software Engineer 2

- Developed F5 BIG-IP's Policy Enforcement Manager, Service Function Chaining and modularized.
- 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)

PATENT

Self-healing and resiliency in radio-based networks using a community model.   Dec 2022
- US 11,888,701 B1, Issued Jan 2024
    Confidential   Dec 2022
    Confidential   Aug 2022
- Patent pending