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, Terraform (IaC), SDN, NFV, Database, Git, Kubernetes, Docker, Kafaka, OF, OVS, GNU toolchain, Boost, Protobuf, vim, ML, Gen AI, LLM

EXPERIENCE

AMAZON WEB SERVICES, INC. (AWS), Sunnyvale, CA   Nov 2019 - Present
Software Development Engineer 2
- Developing AI-powered cloud security services using generative AI.
- Developed critical AWS network solutions like Private 5G, Telco Builder, VPC, and Site-to-Site VPN.
- Built AWS Aurora database streaming services and advanced BinLog manipulation library.
- Leading engineering teams, driving business/project planning for successful product delivery.
- Inventor and author of multiple ML, security and network solution patents.
- Handled on-call, root cause analysis, and automation to enhance reliability of critical AWS services.

F5 NETWORKS, INC, San Jose, CA   Jul 2018 – Nov 2019
Software Engineer 2
- Built policy enforcement manager, service function chaining, and modular solutions for F5 BIG-IP.
- Integrated application delivery networking into CI/CD, conducted SDN controller and RFC feasibility studies.
- Collaborated cross-functionally to deliver innovative products, provided technical leadership and mentoring.

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

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™).
- Implemented microservices with containerization, REST, Kafka with P2P technology.
- Performed strategic assessments, feasibility studies, software release maintenance.

PUBLICATION

- **A Distributed Virtual Time on Embedded System for Evaluating Cyber-Physical Systems** (ACM SIGSIM-PADS 2019) *(Best Paper Award)*
- **A Distributed Embedded Linux System Smart Grid Testbed** (GCASR 2018)

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
- Patent pending

Enhancing availability of radio-based applications using multiple compute instances and virtualized network function accelerators at cloud edge   Aug 2022
- US 11,937,103 B1, Issued Mar 2024