

# 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:** Go, C++, C, Python, Shell Script, TypeScript, Java
- **Networking/ Protocols:** gRPC, NSH, SFC, VLAN, VxLAN, TCP/IP, REST, SOAP, P2P, ZMQ, SRv6
- **Technologies:** Gen AI, LLM, Distributed/Embedded Systems, 5G, AWS, CDK, Terraform (IaC), SDN, Database, Git, Kubernetes, Docker, Kafka, OF, OVS, GNU toolchain,, Protobuf, vim, ML, NLP, BMaaS, eBPF

## EXPERIENCE

ZSCALER, INC. (AWS), San Jose (Remote), CA

Nov 2024 - present

### Senior Software Development Engineer

- Building a cloud-native security CTEM service with Zscaler data fabric.
- Developing Zscaler Internet Access (ZIA) and its inventory services.
- Driving advanced research in AI and Security.
- Inventor and author of multiple Generative AI, ML, and cybersecurity patents.

AMAZON WEB SERVICES, INC. (AWS), Sunnyvale, CA

Nov 2019 - Nov 2024

### Software Development Engineer 2

- Developing AI-powered cloud security services using generative AI.
- Developed critical AWS network services like Private 5G, Telco Network Builder, VPC, Outposts bare metal, and Site2Site 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

### 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

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| <b>Self-healing and resiliency in radio-based networks using a community model.</b>  | Dec 2022 |
| • US 11,888,701 B1, Issued Jan 2024  |          |
| <b>Enhancing availability of radio-based applications using multiple compute instances and virtualized network function accelerators at cloud edge</b> | Aug 2022 |
| • US 11,937,103 B1, Issued Mar 2024  |          |
| <b>Confidential</b>  | May2025  |
| • Patent pending   |          |
| <b>Confidential</b>  | Feb2025  |
| • Patent pending   |          |
| <b>Confidential</b>  | Dec 2022 |
| • Patent pending   |          |