

BRIAN (YUAN-AN) LIU

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GEN AI & CYBERSECURITY SPECIALIST

Strategic technologist with 10+ years of experience designing secure, scalable cloud architectures and enterprise-grade Generative AI solutions. Leveraging a deep background in Senior Software Engineering (Zscaler, AWS, F5) to bridge the gap between complex business requirements and technical implementation. Expert in orchestrating LLM workflows (RAG, Agents), optimizing cloud infrastructure for cost and latency, and implementing security principles. Passionate about shifting from manual development cycles to automated, high-level architectural design that drives business innovation and operational efficiency.

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, Computer Science

Sep 2011 - Jun 2015

Association: CYCU-Software Engineering Lab

SKILLS

- **Cloud & Infrastructure:** AWS, Azure, GCP, Multi-Cloud, CDK, Terraform (IaC), Kubernetes, Docker, Helm, Nginx, Bedrock, SDN, OVS, eBPF, GNU toolchain
- **AI/ML/Security:** Gen AI, LLM, ML, RAG, NLP, RAGAS, LangChain, Hugging Face, GPT, Claude, Gemini, LLaMA, NLP, Distributed/Embedded Systems, Cybersecurity, BMaaS, TensorFlow, PyTorch
- **Networking/Protocols:** 5G, gRPC, NSH, SFC, VLAN, VxLAN, TCP/IP, REST, SOAP, P2P, ZMQ, SRv6
- **Languages:** Go, Python, C++, C, Shell Script, TypeScript, Java
- **Data & Services:** DynamoDB, PostgreSQL, MySQL, OpenSearch, Git, Kafka, Kinesis, Protobuf, vim, Telemetry

EXPERIENCE

ZSCALER, INC. Remote, CA

Nov 2024 - present

Senior Software Development Engineer

- Leading client engagement and solution design for a new cloud-native security CTEM service, leveraging Zscaler data fabric to meet strategic customer needs.
- Conducted detailed cost analysis for hosting the cloud-native infrastructure, collaborating with the product team to project revenue for new AI/ML offerings.
- Designed and implemented multiple AI workflows with agents for threat log analysis, leveraging Retrieval-Augmented Generation (RAG) with active crawlers and integrating various LLM models, including cloud-based and local/on-prem/self-hosted solutions and model training.
- Developing Zscaler Internet Access (ZIA) and its inventory service, focusing on scalable architecture using Kubernetes and Docker.
- Driving advanced research in AI and Security to define future cloud-native security offerings.
- Inventor and author of multiple Generative AI, ML, and cybersecurity patents demonstrating technical thought-leadership.
- Driving internal adoption and contributing to best practices for cutting-edge AI/ML technologies, and actively contributing to open source AI projects.

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

Nov 2019 - Nov 2024

Software Development Engineer 2

Software Development Engineer 1

- Architected and developed AI-powered cloud security services utilizing generative AI to enhance customer posture.
- Engaged directly with customers and key stakeholders to define requirements and provide technical solutions for large-scale product delivery.
- Performed in-depth cost analysis for hosting critical infrastructure designs and partnered with the product team on revenue projections for new AWS network services.

- Developed critical AWS network services like Private 5G, Telco Network Builder, VPC, Outposts bare metal, and Site2Site VPN.
- Hands-on lab work to set up and manage physical data center hardware, including AWS Outposts and EC2 devices with 3rd party accelerators and GPUs.
- 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

Software Engineer 1

- Collaborated cross-functionally and with client teams to deliver innovative products, provided technical leadership and mentoring.
- 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.

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

- Worked directly with OEM clients to provide technical consultation and solution delivery.
- 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
- **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
- **Confidential (AI)** Oct 2025
- Patent pending
- **Confidential (AI)** May 2025
- Patent pending
- **Confidential (AI)** Feb 2025
- Patent pending
- **Confidential** Dec 2022
- Patent pending