GUOLIANG ERIC LIU

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EDUCATION

New York University (NYU) *Class of 2025*

- *Bachelor of Arts* in Computer Science and Psychology

NYU Cybersecurity Club Osiris

- Attended hacking workshops and CTF developing keen passion and foundational skills in cybersecurity

PROFESSIONAL EXPERIENCE

braintrance | PyTorch, Node.js, NextJs *September 2025–Present*

Part-time Software Engineer

- Reproduced and implemented computer vision & AI research using PyTorch technologies for production use
- Built interactive 4D visualization components in Three.js enabling viewing for cutting-edge reconstructions

Founders Inc. Founder in Residence | Typescript, NextJs, C++, SQL, OpenCV *June 2025–August 2025*

Co-founder CTO of braintrance.net

- Generated 300+ users and 30 DAU on the website to become Winner of Founders Inc. Off Season demo day
- Built performant website optimized on all browser engines in ThreeJs and WebGL on NextJs to host 3D content
- Hosted backend on AWS ECS Fargate with CI/CD boosting productivity taking 3 weeks from idea to production
- Productized Gaussian Splatting ML pipeline on GPU compute for auto-generating 3D renders from 2D media
- Created ML workflow with pretrained models in C++ for classifying, segmenting, and correcting 3D images

TwoCents, iOS app Startup | **Swift, Docker, Go, PostgreSQL, AWS** *January 2023–May 2025*

Co-founder CTO

- Competed as Semi-Finalist at NYU Entrepreneurship Challenge Tech Venture Competition as the youngest team
- Designed bespoke UI first with Flutter then with SwiftUI and UIKit after pivoting delivering smooth UX
- Generated 4.8 million views on social media for advertisement converting numerous viewers into Beta testers
- Architected performant backend REST API in Golang communicating with PostgreSQL database
- Automated container CI/CD accelerating development from idea to working MVP for Beta testing in 1 month

KuanDeng Technology | PyTorch, CUDA, DDP *June 2025–August 2023*

AI Intern for Autonomous Vehicles

- Developed Semantic Segmentation and Classification computer vision AI model to train on abnormal road data
- Supervised AI model GPU training using distributed computing across numerous nodes boosting training time
- Augmented and preprocessed large datasets with 100,000+ images refining available training data
- Directed Mandarin-English translation for documentation maximizing English-speaking employee productivity

SIDE PROJECTS

Homelab | matrix.guoliangliu.com, jellyfin.guoliangliu.com, calibre.guoliangliu.com

- Self-hosting publicly accessible movie, TV show, E2EE chat/video call, and ebook services for use by friends
- Orchestrated services across containers and computers through Docker networking and OpenWRT DNS server
- Secured local services through self-hosted Certificate Authority to issue LAN TLS certs for .lan domains
- Serving Wireguard VPN server to remotely access unexposed LAN services behind firewall securely

ESP32 Doorbell | C++, ESP-IDF, UART

- Built an ESP32-based wireless doorbell system with button input handling and debouncing in embedded C++
- Implemented IOT Wi-Fi networking and HTTP server endpoints on the ESP32 to trigger over the local network
- Integrated audio by flashing WAV file and driving external speaker via I2S optimizing limited storage and power

RELEVANT SKILLS

- **Coding Languages***:* Python, Java, SQL, Rust, C, C++, Swift, Dart, HTML, CSS, Bash, Typescript/Javascript, R
- **Technologies***:* PyTorch, AWS, React, OpenCV, git, Docker, CUDA, Nginx, Flutter, Firebase, PostgreSQL
- **Languages**: English (Fluent), Mandarin (Fluent)

INTERESTS/FUN FACTS

Linux Ricer, Mixed-handed, Volleyball player, Ancient 2 in DOTA 2, DDOS'd my middle school's internet