

## Nick Kuo

Taipei, Taiwan | jellykuo1234 at Google's free mail service | <https://nickkuo.dev>

### Professional Experience

#### Advanced Micro Devices, Inc.

August 2022 – Present

##### Sr. Software Development Engineer

- Leveraged low-level GPU programming and composable kernel optimization techniques to accelerate Flash Attention implementation, achieving a 70% performance uplift on edge device iGPU LLM inference.
- Direct engagement with customer on AI requests, spanning CNN based camera solution to edge LLM / ASR / Stable Diffusion deployments. Presented SD with iGPU acceleration at CES 2024.
- Resolve complex Windows / Linux graphics and audio drivers, user-mode application issues, triage & debug both component-level and system-level failure.
- Investigate BSOD / panic dumps and identify root-causes by exploring OS internals, while sharing key debugging insights with the team through regular case-sharing sessions.
- Develop "AEX" toolset, significantly enhanced BSOD dump analysis accuracy and efficiency.
- Contribute to open-source AMD ROCm community reported issues. Submit code-changes & discuss with component teams to achieve timely resolution.

#### TEC Digital Technology

October 2019 – August 2022

##### Software Project Engineer

- Optimized mobile application backend system. Implemented a scalable backend & tiered caching mechanism, succeed in reducing network egress cost by 30% and improved app responsiveness by 20%.
- Iterate and maintain an online insurance system, planned and refactored a monolithic codebase to a distributed API based solution, enabled horizontal scaling and availability improvements.

### Innovation and Patents

#### US Patent 12,393,487 B1: VBIOS Contingency Recovery

Issued August 2025

A software-based methodology to automatically recover a GPU from corrupted VBIOS/firmware state caused by interrupted flashing, preventing "bricking" and eliminating the need for complex hardware-based recovery.

### Awards and Recognition

#### 2022 WorldSkills Competition – IT Software Solutions for Business

November 2022

Bronze Award

#### Executive Spotlight Award

October 2024

Recognized for leadership and execution in 2024 AMD Software Summit.

#### Spotlight Award

June 2024

Successful and on-time launch of customer AI application for Computex 2024.

### Education

#### National Taiwan University of Science and Technology

September 2019 – June 2023

Bachelor of Computer Science and Information Engineering

GPA 3.85/4.3. Under the supervision of Prof. Kai-Lung Hua, interned under Prof. Yu-Chi Lai.

- Cloud-Based Big Data Streaming Framework – Researched and implemented a robust big data ETL pipeline leveraging Apache Spark and Apache Kafka, achieved high-throughput, high-availability, low-latency processing of live game data.
- HBK Judge – Developed an online, code judging SaaS platform with scalable micro-service architecture, built-in IDE extensions support. Successfully commercialized and deployed to several universities and high schools.

### Skills

**Languages:** C/C++, C#, Python, JavaScript, x86 ASM, Kotlin, Java

**AI/GPU Technologies:** ROCm, HIP SDK, CUDA, LLVM clang, LLM, Stable Diffusion, Computer Vision

**Operating System & Debuggers:** Windows NT Kernel, Linux DRM, WinDbg, GDB, LLDB, Ghidra, IDA