

Nick Kuo

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Professional Experience

Advanced Micro Devices, Inc.	August 2022 – Present
Sr. Software Development Engineer	
<ul style="list-style-type: none">• 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

<ul style="list-style-type: none">• 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.	
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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